## Original Articles.

# RESULTS OF THE SWIFT-ELLIS INTRADURAL METHOD OF TREATMENT IN GENERAL PARESIS.*

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ONE OF the most important contributions of 1913 in the field of syphilis was the introduction by Swift and Ellis[1] of intradural injections of salvarsanized serum. Since the technique and underlying principles of this treatment have been detailed by the original workers, and subsequently described by Hough[2] and others in reports upon cases treated by the method, it is superfluous, in this report on the fate of cases treated, to describe the technique used. It may be said that it was in all respects similar to that used by Swift and Ellis. A brief preliminary statement of the results obtained in the treatment of these cases was published in the annual report of the Psychopathic Hospital.[3] At that time I stated that the treatment could influence the course of paresis in that it was possible by using it to change the Wassermann reaction from positive to negative, and materially to reduce cell count and globulin content. In a later paper dealing with albumen content of the spinal fluid I have made some further observations on the subject, and now wish to supplement my previous report by a more detailed account of the further history of the individuals treated by this method.

The material was drawn from the cases at the Psychopathic Hospital, Boston, Mass. All here reported are paretics. Some of the cases have been under observation and treatment for a year, others for a less time, but enough treatment was administered and examinations were made frequently enough to establish in my opinion the conclusions which will be presented at the end of this paper.

Following are the cases, with a brief account of the initial condition, the record of treatments administered, the results in spinal fluid and blood, clinical changes and condition at present. It will be understood that only noteworthy changes or conditions are here recorded. The Wassermann test in each case and at all times was made by the Harvard Medical School, Department of Neuropathology. The cell count, globulin and albumen content tests were made by myself except in a very few cases.

* Being Psychopathic Hospital Contribution 1914.6, the previous contribution 1914.5 by M. C. Jarrett entitled "The Function of the Social Service of the Psychopathic Hospital, Boston," to appear at a later date in the BOSTON MEDICAL AND SURGICAL JOURNAL.

CASE 1. No. 11341. T. J. L., male, aged 40 years. Entered the Psychopathic Hospital Jan. 3, 1913. *Physical signs.* Irregular pupils, right greater than left; light reaction of left pupil, 0; right pupil, slight reaction to light; convergence reaction present. Arm reflexes, much exaggerated. Knee jerks equal and much exaggerated. Ankle jerks, absent. Homolateral and contralateral adductors, present. Right cremaster, slight; left, O. K. Right abdominal, slight; left, O. K. Speech impaired. Mentally: Delusions of persecution, slight memory defect, orientation slightly impaired as to place. Euphoric, verbose and irrelevant in conversation. Wassermann reaction in blood and spinal fluid positive. Thirty-five cells per cubic mm.; globulin, markedly increased; albumen, markedly increased. Diagnosis, unqualifiedly, general paralysis.

*Treatment.* Feb. 15, .6 gr. neosalvarsan.

Feb. 15, serum shows 10 cells, glob. +++ positive, alb. +++ positive. No intradural treatment given.

Feb. 27, .9 gm. neosalvarsan.

March 1, intradural treatment, 30 c.c. serum. Spinal fluid at this time shows 5 cells, globulin, positive.

March 11, .9 gm. neosalvarsan. Wassermann reaction in serum negative. Globulin ++; no cells. Wassermann in spinal fluid positive.

March 17, 30 c.c. serum intradurally.

April 9, .9 gm. neosalvarsan.

April 11, 30 c.c. serum injected. Spinal fluid at this time ++0 for globulin, +++ albumen, 0 cells. Wassermann reaction, serum slightly positive.

April 16, Wassermann reaction in spinal fluid from previous lumbar puncture reported negative.

April 22, .9 gm. neosalvarsan.

April 24, 30 c.c. of serum intradurally. Slight blood in spinal fluid, therefore no accurate examination possible.

April 26, Wassermann reaction, spinal fluid from the above specimen negative.

May 1, Wassermann reaction, serum negative.

May 7, 45 gm. neosalvarsan.

May 10, 20 c.c. serum. Wassermann reaction, serum negative. Glob. ++0, alb. ++0, few cells.

May 21, .9 gm. neosalvarsan.

May 24, 20 c.c. serum intradurally. Wassermann reaction, serum negative. Wassermann reaction, spinal fluid positive.

May 29, Wassermann reaction, serum negative.

June 25, .9 gm neosalvarsan

July 10, .9 gm. neosalvarsan.

July 12, Wassermann reaction, serum negative.

Aug. 6, .9 gm. neosalvarsan.

Aug. 9, Wassermann reaction, serum.

Aug. 13, Wassermann reaction, spinal fluid negative.

Aug. 26, .9 gms. neosalvarsan.

Aug. 30, 30 c.c. serum intradurally.

Aug. 30, Wassermann reaction, serum negative.

Sept. 3, Wassermann reaction, spinal fluid negative. Glob. ++0, alb. ++0, no cells.

Treatment was discontinued at this time. During this time the patient's mental condition did not particularly change. He was still somewhat irrelevant—foolish rather than demented, euphoric, but with no definite delusions or hallucinations. Physical signs not changed.

Oct. 24, patient showed evidence of slight confusion during the last few days, restless, speech defect more marked.

Oct. 27, patient had a slight convulsive seizure. In November he had very many general convulsions.

*Physical Examination at the Present Time.* He lies in bed, has lost weight and is very weak. His speech defect is more marked. The physical signs have not altered except for the fact that the cremasterics and abdominal reflexes have disappeared. He is disoriented, has no appreciation whatever of the situation, is euphoric, talks continually of what he is going to do in his work and has big plans for the future.

Wassermann reaction in blood, positive. Spinal fluid examination. Wassermann reaction, +, albumen, globulin and cell count not reported.

*Summary.* Patient received ten treatments of Neosalvarsan in less than one year's time. He received in addition seven intradural treatments of salvarsanized serum. The results have been mainly limited to the disappearance of the Wassermann reaction, to the reduction in the globulin, albumen and cell count. It will be seen, as I have pointed out in a paper on Albumen Content in Spinal Fluid, previously cited, that the Wassermann reaction and the cell count have been the most variable of the reactions. As far as his mental condition goes, many a paretic without treatment will show as stationary a course for a year. In other words, there has been no obvious effect of the treatment on his mental or physical condition. Following the discontinuance of the treatment by a little over a month, there came on what usually portend the final stages of paresis, namely, convulsions. At the present time the picture presented is that of a much deteriorated paretic in bad physical condition.*

CASE 2. No. 11378. C. S., male, aged 45 years. Tabes of long standing. Entered the hospital on Feb. 1 in an exceedingly maniacal, euphoric condition. The physical signs in this case were those of marked tabes, ataxia, absent reflexes, Argyll-Robertson pupils, history of lightening pains, etc., plus a mental condition of extreme psychomotor activity, euphoria, ideas of grandeur.

Wassermann reaction in the blood, positive. Wassermann reaction in the spinal fluid, positive. Since there was a slight mixture of blood in the spinal fluid, globulin, albumen, and cell count were not made at that time.

*Treatment.* Feb. 8, .55 gm. neosalvarsan.

Feb. 13, .9 gm. neosalvarsan.

Feb. 17, 30 c.c. of serum injected intradurally. Patient struggled and bloody spinal fluid was obtained, which was of no value for diagnosis.

Feb. 27, .9 gm. neosalvarsan.

March 1, 30 c.c. of serum. Wassermann reaction + in the spinal fluid Glob. +++, small cell increase — 5 cells.

Mar. 11, .9 gm. neosalvarsan.

March 14, 30 c.c. of serum. Wassermann reaction, blood positive. No cells in spinal fluid; no glob. Alb. +, increased moderately. Wassermann reaction, March 11, serum positive.

Patient became so boisterous, so troublesome and destructive that it was found necessary to transfer him to the Boston State Hospital, main department. His condition showed no appreciable change. He was still maniacal, euphoric. The physical signs showed no abatement. He was later transferred to Worcester.

*Summary.* Four treatments of Neosalvarsan; three intradural injections within the space of six weeks. No improvement clinically. Serum unchanged. Spinal fluid showed no cells, no globulin, but in this case there is no record of the original cellular and globulin content of the spinal fluid because of contamination with blood.

CASE 3. No. 11409. H. N., male, aged 39 years. Admitted Feb. 14, 1913. Came from Boston City Hospital where he had been for three weeks. Marked delusions of persecution, hallucinations of sight and hearing, intensely agitated, excited and restless. Argyll-Robertson pupils. Knee jerks present, moderately active. Ankle jerks present, moderately active. Wassermann reaction, blood positive. Wassermann reaction, spinal fluid positive. Cell count, 50 per cubic mm.; alb. +++, glob. +++. Clinical diagnosis, general paralysis.

After patient had been in the hospital a very short time his delusions and hallucinations vanished, so that by the middle of March, or a month after his admission, he was completely clear, a fact which cannot be ascribed to his treatment since betterment had commenced before the treatment was instituted. A note dated Feb. 26, before the treatment was instituted, says, "Insight is quite reestablished."

*Treatment.* Feb. 27, .45 gr. neosalvarsan.

March 1, 30 cc. serum. Spinal fluid not examined.

March 15, 20 c.c. serum injected in spinal canal. (Serum was removed one hour after salvarsan was injected. Delay in intradural treatment due to other causes.) Spinal fluid examination at this time—no cells, glob. ++0; alb. ++0. Wassermann reaction spinal fluid, +. Wassermann reaction in blood +.

April 3, .9 gm. neosalvarsan.

April 5, 30 c.c. serum. Cells 30, glob. +++.

April 16, .9 gm. neosalvarsan.

April 19, 30 c.c. serum intradurally. Wassermann reaction, serum negative. Glob. ++0. Red cells in spinal fluid.

April 23, spinal fluid removed on the 19th reported negative.

April 30, .9 gm. neosalvarsan.

May 1, 30 .cc. serum intradurally. Cells 25, glob. ++0. Wassermann reaction, serum suggestion of positive. Spinal fluid, negative. Reported on May 7.

May 15, .9 gr. neosalvarsan. Wassermann reaction, serum slightly positive

May 21, Wassermann reaction, spinal fluid slightly positive.

May 28, .6 gr. neosalvarsan.

June 4, 20 c.c. serum intradurally.

May 31, Wassermann reaction, serum negative.

June 4, Spinal fluid slightly positive. At this time the patient was discharged on visit—condition improved.

* Since this paper was written this patient has died. Autopsy showed characteristic signs of general paresis.

June 30. Patient returned to hospital. Insomnia, which was now his principal complaint, increased upon leaving the hospital to such a point that he found it necessary to return.

July 5, .9 gr. neosalvarsan.

July 8, Wassermann reaction, serum slightly positive.

July 10, 30 c.c. of serum injected intradurally.

July 12, Wassermann reaction, spinal fluid negative. Cells 0; glob., slightest possible amount; alb., moderately increased.

July 30, .9 gr. neosalvarsan.

Aug. 2, Wassermann reaction, serum suggestive of positive.

Aug. 13, .9 gr. neosalvarsan.

Aug. 16, Wassermann reaction, serum negative. Spinal fluid not reported on.

Aug. 28, .9 gr. neosalvarsan.

Aug. 30, Wassermann reaction, serum negative. At this time treatments were discontinued.

Sept. 13, Wassermann reaction, serum slightly positive. Spinal puncture done Sept. 13, cells, 50; glob., positive; alb. increased. Wassermann reaction, spinal fluid positive.

Nov. 7, Wassermann reaction, spinal fluid positive. Lumbar puncture at this point, 1 cell; globulin, tested by Nonne's method, positive; by Noguchi's method, negative; albumin, slightly increased. (These last two lumbar punctures and examinations done by W. F. Cook of the Psychopathic Hospital.)

Dec. 24, Patient was transferred to the Taunton State Hospital. Diagnosis at that time, general paralysis of the insane. Condition reported improved.

Physical examination at the Taunton State Hospital on December 26, 1913: Patient is pale and has marked tremor. Argyll Robertson pupils. Arm reflexes are markedly increased. Knee-jerks are moderately active—right, active. Left Achilles is abolished; right, slight. The left abdominal reflex is lively—right, abolished. Cremasterics, active. Sensation in tact.

*Mental Examination* at this time: Patient is well oriented as to time, place and person. Grasp on the situation is good. Insight is fair. He knows his disease and knows its usual course. Remembers most of the disease, and gives the story of his life in a coherent fashion, and is accurate on details. He insists that he has inherited syphilis. Delusions are of a hypochrondriacal nature. He insists that he hears the bugs creeping around in his brain, feels them jumping from one place to another, feels them burrowing under his skin, and when a specimen of his blood is shown he insists that he can see the bugs in the blood. He holds his hands to the light and examines them by the hour to see if the bugs are there. No other delusions, and no hallucinations except the one regarding the bugs.

Wassermann reaction in the blood, positive. Wassermann reaction in spinal fluid doubtful. No cells seen; very slightest trace of globulin; very moderate increase in albumen.

*Summary.* Remission occurred before treatment was instituted. Following the treatment it will be noted that the Wassermann reaction was the most variable sign, disappearing both in blood and spinal fluid, reappearing. The cell count has been abolished once, but showed great variability, and it is especially noteworthy that at the end of the treatment the number of cells was 50. A month and a half later, *without any treatment,* the cells diminished to one, and at a still later examination they disappeared entirely. The globulin, it will be noted, disappeared on two occasions, and was, however, relatively more constantly present than the cells or Wassermann. The albumen increase was the most constant sign of all and showed the least fluctuations, although it had nearly reached the normal at the last examination.

Patient is to receive further treatment, but it is to be said that his physical condition is gradually growing worse. He looks paler than he did on entrance to the Psychopathic Hospital, and he is abjectly miserable. Moreover, the psychosis seems to be traveling malignly for he is now distinctly deluded regarding the "bugs," a symptom not noted until lately.

Case 4. No. 11452. S. H. S. Male. Admitted Feb. 25, 1913, voluntary patient; aged 36 years, attorney by occupation.

Fairly good family history. Patient has always been nervous. He drank moderately and was an inveterate smoker. Thirteen years ago he had the initial lesion and went to Hot Springs for treatment. Treatment followed this, irregularly. Admitted to the bar four years ago, not successful.

*Present Illness* dates back from Dec. 1, 1912. Despondent, downcast and unhappy. He has made two attempts at suicide, once by taking trional, and again by bichloride of mercury. No hallucinations or delusions. Sleepless, no appetite. Arms and legs feel numb. Immediate cause of psychosis said to be the breaking off of his engagement with a young woman he intended to marry. This the patient did to protect the young woman.

*Physical Examination.* Right pupil larger than the left. Argyll-Robertson on left—slight reaction to light on right side. Knee jerks and ankle jerks lively. Arm reflexes exaggerated. Sensation not disturbed. Periosteal reflexes active. Abdominal reflexes, uppers gone, lowers, O. K. Cremasterics present. Wassermann reaction, serum positive. Spinal fluid positive to Wassermann, 40 cells, globulin increased, albumen increased.

*Treatment.* March 3, .45 gr. neosalvarsan.

March 7, serum, 30 c.c. Wassermann reaction, spinal fluid positive.

March 19, .9 gr. neosalvarsan.

March 21, serum, 30 c.c. No cells, glob. slight. Wassermann reaction, spinal fluid positive.

April 3, .9 gr. neosalvarsan.

April 5, 30 c.c. serum. Glob. +++, 25 cells, alb. increased

April 16, .9 gr. neosalvarsan.

Apr. 19, 20 c.c. serum intradurally. Wassermann reaction, serum positive. Glob. ++, cells 30, Wassermann reaction, spinal fluid negative.

April 22, .9 gr. neosalvarsan.

April 26, spinal fluid positive.

April 30, .45 gr. neosalvarsan. Wassermann reaction, serum negative.

Physical examination at this time disclosed no great difference from previous examination. Men-

tal examination disclosed no definite signs of a psychosis. At this time, however, he found himself examining words that came to his mind in something the following manner. For example, the word "echo" as it came to his mind in sentences brought forth questions as follows: "What is an echo?" "What does the word 'echo' mean?" "Are there many echoes?" "Do woods give echoes?" His mind would busy itself answering those questions, and at the same time he recognized the absurdity of his own activity. He stated that this symptom was most constant and that it had no particular emotional content, that is, no particular words or sets of ideas were continually reacting. Still very sleepless and can see no betterment in his condition. Has perfect insight. Is willing to be treated and thankful for attention given him. Is on the whole rather hopeless.

Concerted and persistent effort will usually elicit a correct reply to any question in educational matters, but the patient's first tendency is to say, "I don't know" to anything at all difficult. In other words, he thinks his memory is gone. This symptom is important in view of later developments.

May 10, Wassermann reaction, serum slightly positive.

May 21, .9 gr. neosalvarsan.

May 24, 30 c.c. serum intradurally.

May 24, Wassermann reaction, serum positive.

May 29, Wassermann reaction, serum suggestive of positive.

June 4, .6 gr. neosalvarsan.

June 7, Wassermann reaction, serum positive. 20 c.c. intradurally.

June 11, Wassermann reaction, spinal fluid slightly positive. Glob. 0, cells 0, alb. slightly increased.

July 2, .45 gr. neosalvarsan. Wassermann reaction, serum positive.

July 7, Wassermann reaction, serum positive. Spinal fluid, not examined for cells or globulin.

July 10, Wassermann reaction, spinal fluid negative.

July 16, .45 gr. neosalvarsan. Wassermann reaction, serum slightly positive.

July 19, 30 c.c. intradurally. Wassermann reaction, serum slightly positive. Wassermann reaction, spinal fluid moderately positive.

July 30, .45 gr. neosalvarsan.

Aug. 13, .6 gr. neosalvarsan.

Aug. 14, 30 c.c. salvarsanized serum, last treatment. Spinal fluid, Wassermann reaction slightly positive.

Aug. 16, Wassermann reaction, serum slightly positive.

Aug. 26, Wassermann reaction, serum negative.

Sept. 13, Wassermann reaction, serum negative.

Dec. 16, transferred to main department of Boston State Hospital.

*Physical Examination.* Pupils show same changes as before, as do the other physical signs. Condition, unimproved.

Jan. 20, examined by present writer. Physical signs as above stated. Patient is thinner, however, than when at the Psychopathic Hospital, and the mental examination shows a distinct change in the emotional tone. While he still claims that there is no hope for him, his whole attitude is euphoric. Voice is loud, manner is breezy, and he laughs in a silly manner at times. He states in an irrelevant fashion that his brother is coming to see him and bring him some candy and cake, whereas such a visit when patient was first seen at the Psychopathic would have been passed over by him as too trivial to mention to the physician. Now he mentions it with great gusto. He says, "My memory is as good as it ever was. I remember every little thing in detail. My memory is excellent." This is in marked contrast with his attitude at the Psychopathic when he was complaining continually of his memory. The facial movements are somewhat more stiffened and exaggerated. Otherwise he gives no definite mental signs of general paresis. Wassermann reaction, serum negative. Spinal puncture refused.

*Summary.* Patient received eleven doses of neosalvarsan intravenously and seven intradural injections. Wassermann reaction in serum and blood became negative at times. At one time the globulin disappeared as did the cells. He showed no improvement, however, in his clinical manifestations although for a long time he showed no downward change. When the treatment was discontinued, there seemed to have followed an emotional deterioration, manifested at the present time by a mild euphoria and triviality. On the whole it is possible that the treatment in this man's case halted the disease for a short time, but that it did not seriously alter its progress is manifested by the impaired physical condition at the present time, and the gradual, if not obvious, mental breakdown, this despite the fact that Wassermann reaction at present is negative.

The next case is recorded in this series because the patient had four injections into the spinal canal and refused further treatment in this manner because of the violent reaction. However, he had ten doses of neosalvarsan, and offers an excellent comparison with the other cases.

CASE 5. No. 11415. J. H. S., male, aged 48 years, married.

*Family History.* Negative. In 1904 the case was diagnosed as locomotor ataxia at the Boston City Hospital. The gait has been unsteady for years—pains in the legs. About six years ago patient became rather irritable and has grown more so of late. One month ago he called his wife and said that he had a vision, and told her to hide all the knives. Cried a good deal.

*Physical Examination.* Argyll-Robertson pupils. Arm reflexes present, knee and ankle jerks 0. Diminished sensation to pain in a belt-like fashion around the chest. Memory defect noted in recalling the three last governors. Arithmetical tests are poorly answered. No hallucinations or delusions noted. Emotional tone somewhat euphoric. For a diagnosis of paresis, there are but few mental signs, but the history of irritability, the memory defect and the euphoria point decidedly that way. Tabes is without a doubt present. Wassermann reaction in blood, positive. In spinal fluid, suggestive of positive, 40 cells; globulin much increased.

*Treatment.* Feb. 20, .45 gr. neosalvarsan.

Feb. 22, 25 c.c. serum.

Feb. 24, report on blood taken before intradural injection, serum negative.

March 6, .9 gr. neosalvarsan.

March 8, 30 c.c. serum; 0 cells, glob. ++. Wassermann reaction, serum.

March 19, .9 gr. neosalvarsan. Wassermann reaction, serum negative.

March 22, 12 c.c. serum. Wassermann reaction, spinal fluid negative No cells, glob. +, alb. moderately increased.

April 9, .9 gr. neosalvarsan.

April 12, 30 c.c. serum. Glob. ++, cells 0. Spinal fluid negative.

From this time the patient refused any intradural treatment.

April 16, .45 gr. neosalvarsan.

April 22, .45 gr. neosalvarsan.

April 26, Wassermann reaction, spinal fluid negative. Glob. very slightly plus, cells 7.

April 30, .45 gr. neosalvarsan. Wassermann reaction, serum negative.

May 7, .45 gr. neosalvarsan.

May 10, Wassermann reaction, serum negative.

May 21, .9 gr. neosalvarsan. Wassermann reaction, serum negative.

May 24, Wassermann reaction, serum negative.

June 4, .9 gr. neosalvarsan. Wassermann reaction, serum negative.

Record does not contain treatment after this. The symptoms did not change except that the patient claimed to have less pain in his legs. In December he was transferred to the main hospital; condition clinically unimproved.

Jan. 20. Examined by writer. Much thinner than upon entrance to the hospital. Optic atrophy marked. Memory fairly good. Euphoria extremely marked. Said to the examiner, "See how well I walk now days," and proceeds to demonstrate. Gait is extremely ataxic and unsteady. Diagnosis by staff of Boston State Hospital, tabo paresis. Wassermann reaction, blood negative. Wassermann reaction, spinal fluid, not made since lumbar puncture was not permitted.

*Summary.* Early case of paresis—late case of tabes. Four intradural injections with changes after the first intravenous so far as Wassermann reaction is concerned. This reaction disappeared from the blood and spinal fluid almost immediately upon treatment, but seems to have been due to salvarsan more than any other factor in the treatment. Despite its absence, the condition of the patient showed no definite improvement, and shortly after treatment was stopped his condition became distinctly worse. Here too the Wassermann reaction is negative.

CASE 6. No. 11737. F. M. L., male, aged 39 years, married. Entered May 6, 1913. The occasion of this patient's commitment to the hospital was a sudden outbreak in the house of a friend. He threw an Indian club out of the window, and then chased a small boy who had taken it down the street, screaming in a maniacal fashion. Family history negative. Had a high school education. He had been a spendthrift, a heavy drinker, and has led a dissolute life. At first he denied syphilis, but later admitted having had it years ago. At the time of entrance he was clearly oriented. Memory seemed intact. No hallucinations or delusions were elicited. He was somewhat euphoric. Continually attempted to leave the hospital. Rather verbose in answers. Otherwise showed no distinct mental symptoms.

Physical signs were carefully noted at that time. The left pupil was slightly larger than the right, both reacted moderately to light, consensual and distance. Cranial nerves of the face were good. No paralysis anywhere. Slight tremor of the hands. Reflexes of the arms were equal and moderate. Knee jerks, equal and active. Ankle jerks equal and active. No Babinski, Gordon or Oppenheim. Adductors moderate. Cremasters and abdominals O. K. In other words, physical examination was almost entirely negative. Blood serum positive to the Wassermann reaction to syphilis. Spinal fluid showed moderate pressure, albumen much increased, Wassermann negative, globulin by Nonne's method very slightly positive, likewise by Noguchi's method; cells mostly reds, of which there were perhaps 1000 in the field. No blood had been drawn upon puncture, and these cells it was evident had not come from the puncture since the slightly yellowish tinge of the spinal fluid could not be centrifuged out. This peculiar spinal fluid had its explanation a very short time afterward in the following:

May 11. During the morning the patient was confused, restless, and attempted to get out. At 12.30 he suddenly lost consciousness, became rigid, and showed some clonic movements. Recovered in about thirty minutes. During this time there was a double Babinski, more on the right side, rigid pupils, absence of cremasteric and abdominal reflexes. At six p.m. he was up and around, very euphoric, and markedly confabulating. He told how he had been out all day in an automobile and spoke of the very elaborate meals which he had had. Showed marked loss of memory for recent events. Was disoriented for time and place. Gave irrational answers to questions on educational matters. Lumbar puncture done at this time shows that spinal fluid was under high pressure, was yellowish in color, contained very many red cells, although no blood had been drawn by the puncture, and as before, the color could not be centrifuged out.

The Wassermann reaction in the blood was still positive. At this time there was positive Wassermann reaction of spinal fluid. The globulin was distinctly positive.

From this time for a period of one month, the patient had marked euphoric delusions. He was to marry a nurse of the ward. He had $50,000, a motor boat, and a Pierce-Arrow automobile was to take him and his bride all over the country and to Europe. He denied that he was married, and said most emphatically that the nurse, who was possessed of all the virtues of her sex both in person and character, had promised her hand to him as soon as he could get out. He had schemes for making money. Gradually this euphoric state disappeared.

*Treatment.* May 14, .45 gr. neosalvarsan.

May 21, .45 gr. neosalvarsan.

May 24, 20 c.c. serum intradurally. Wassermann reaction, serum positive.

May 28, .9 gr. neosalvarsan. Wassermann reaction, serum negative.

May 31, 30 c.c. serum intradurally. Wassermann reaction, serum negative.

June 6, .6 gr. neosalvarsan.

June 7, Wassermann reaction, serum slightly positive. 20 c.c. serum injected intradurally. Spinal fluid at this time showed still the slight

yellowish tinge, although no red cells were to be seen. This yellowish tinge persisted for some time, and was probably due to hemoglobin and to dissolved coloring matter from the red cells. Finally it disappeared and the fluid became clear.

June 11, 45 gr. neosalvarsan. Wassermann reaction, spinal fluid negative.

June 14, Wassermann reaction, serum positive.

June 19, .9 gr. neosalvarsan.

June 21, 30 c.c. serum intradurally. Wassermann reaction, serum negative. Spinal fluid, suggestion of positive.

July 2, .9 gr. neosalvarsan.

July 7, 30 c.c. serum intradurally. Spinal fluid at this time, 5 cells, glob. slightly +, alb. distinctly increased. Suggestive positive Wassermann. Serum, slightly positive.

July 16, .9 gr. neosalvarsan.

July 19, 30 c.c. serum intradurally, 10 cells; glob. +++, alb. increased. Wassermann reaction, serum negative; spinal fluid, negative.

July 30. .9 gr. neosalvarsan.

Aug. 2, Wassermann reaction, serum positive.

Aug. 9. Another physical and mental examination was made. He does not remember the two weeks following the convulsion. Following that, however, his memory is clear. He laughs at his former delusions concerning the nurse and likewise those concerning his wealth. He spontaneously states that he had been losing memory for some time before he came to this hospital, likewise losing his ambition, and that he was cranky at home. No pains. Occasional dizzy spells. Physical examination at this time shows very important changes. The right pupil showed almost no reaction to light. The left showed prompt consensual and light reaction. The right arm reflex is lively, greater than the left. Right cremasteric is greater than the left. Knee jerks are equal. Right ankle jerk is active. Left ankle jerk is very slight. No Babinski, Gordon or Oppenheim. Mental examination showed no distinct defects by the Binet-Simon and Healey tests. By careful psychological tests for memory defect and by the ordinary psychiatric examination, nothing of pathological nature was found. He took an active part in the social life of the ward and was one of the leading spirits amongst the patients.

Aug. 13, .9 gr. neosalvarsan.

Aug. 16, 30 c.c. serum intradurally. Wassermann reaction, serum slightly positive. Wassermann reaction, spinal fluid negative.

Sept. 13, serum positive. Treatment discontinued.

Oct. 29, note was made that his condition was unchanged.

Dec. 24, discharged to the Taunton State Hospital. Diagnosis, general paralysis. Condition, unimproved.

At the time of discharge from the Psychopathic Hospital, the patient had commenced to become grandiose again. He exhibited eccentricities of conduct and is said to have a hysterical outburst. This outburst, the patient describes differently. He states that he had a numb feeling in his head and a numb feeling in the right hand; that while he knew the words he was to say and use, he could not utter them. Neither could he write, although he says he understood writing when it was given to him. When he attempted to make himself understood by the physicians, he spoke nonsense, and realized that it was nonsense. By his description, there was a cerebral condition of some kind, transitory in nature, marked by motor aphasia and confusion, with numbness of the right hand.

Physical examination in Taunton State Hospital on Dec. 26. At this time the pupils are Argyll-Robertson on both sides. Tremor of tongue. Blunting of sensation of right side of face. Arm reflexes as before. Left Achilles diminished. No Babinski, Gordon and Oppenheim. Cremasterics present. Left upper and lower abdominal reflexes absent, right upper present, right lower absent. Ophthalmoscopic, negative.

Mental examination at this time shows verbosity, pomposity, euphoria with delusions of grandeur, mostly of a sexual character. He is to marry Miss M., a nurse at the Psychopathic Hospital, and they are to go on a long trip together. He is to furnish a home. She is the most beautiful and virtuous of women, etc. Orientation is intact. Memory is good. No hallucinations. Acts superior to his environment. Somewhat irritable and a trouble-maker amongst the patients. Wassermann reaction in spinal fluid positive. Albumen, moderately increased, globulin moderately increased. Thirty lymphocytes. Serum positive.

*Summary.* This patient, at first considered to be a case of cerebral spinal syphilis, is now considered a general paretic. First, the history of cerebral accident, second the euphoria, grandiose ideas, etc., third, the gradual development of Argyll-Robertson pupils, and the gradual change in reflexes; fourth, the appearance of the four reactions in blood and spinal fluid plus the albumen increase in the latter. He has shown fluctuations in the Wassermann reaction in blood, and there was present in the spinal fluid evidence of a hemorrhage which has made its way into it. Undoubtedly the first flare-up was accompanied by a hemorrhage into some part of the brain, and it is very probable that the second development of grandiose ideas started with some cerebral attack. It is to be especially noted that the Argyll-Robertson pupils developed in this patient's case despite the use of salvarsan and the intradural method of treatment, and for that reason I think this case is of crucial importance in determining the value of the Swift-Ellis method.

CASE 7. No. 11537. J. M., male, aged 37 years. Entered the 25th of March. Family history negative. Early life of patient uneventful. Married, four children, no miscarriages. Two years ago he was thrown from a horse and broke three ribs—recovered. Somewhat later he had "trouble with his head," of indefinite kind—recovered. About Christmas before entrance he began to act queerly. Became careless, worrisome, nervous, could not sleep, forgetful of recent events, and at times irritable and untidy.

*Physical Examination.* Argyll-Robertson pupils, exaggerated reflexes, some unsteadiness of gait. Mentally: Disoriented for time, no grasp of surroundings, poor memory, loss of educational facts, some euphoria, retardation in answers, and impaired insight. Serological examination showed positive Wassermann in blood, positive Wassermann

in spinal fluid. One hundred cells in spinal fluid, markedly increased globulin and albumen.

*Treatment.* April 9, .9 gr. neosalvarsan.

April 12, 30 c.c. of serum intradurally.

April 16, Wassermann reaction, spinal fluid positive. Fifty cells, albumen and globulin in marked excess.

April 22, .45 gr. neosalvarsan; 30 c.c. serum intradurally.

April 26, Wassermann reaction, blood and spinal fluid positive.

May 7, .9 gr. neosalvarsan.

May 10, Wassermann reaction, serum slightly positive; 20 c.c. serum intradurally. Wassermann reaction, spinal fluid positive; 30 cells, glob. somewhat reduced, alb. much increased.

May 21, .9 gr. neosalvarsan. Wassermann reaction, serum negative.

May 26, 30 c.c. serum intradurally. Spinal fluid, Wassermann positive.

June 4, .9 gr. neosalvarsan. Wassermann reaction, serum positive.

June 7, 30 c.c. serum intradurally. Wassermann reaction, spinal fluid positive; 50 cells, globulin and albumen in excess.

June 25, patient becoming rapidly demented. Now lies in bed most of the time. Occasionally gets up and tries to put on other patients' clothing. Does not know the way to his bed and is very untidy. No insight whatever. No grasp on surroundings. Memory for recent and remote events much worse. Treatment discontinued. Transferred to Boston State Hospital, main department, on June 25, 1913. Died Jan. 23, 1914, after severe convulsions. Was bedridden most of stay in hospital.

*Summary.* Despite intensive treatment—five doses of neosalvarsan and five intradural injections within two months, patient grew rapidly worse, and within one year after onset, died of general paralysis. This case needs no further comment except that on entrance he did not seem worse than many other paretics who last longer.

CASE 8. No. 11636. A. V. D., male, aged 57 years. This case, although not receiving many intradural treatments, received several doses of salvarsan, followed later by intradural treatments, despite which his condition rapidly grew worse.

Family history is good. Personal history not remarkable, except that he has had no children although married many years. A chancre occurred thirty-five years ago. The first symptom was bladder trouble in August of last year, incontinence of urine since that time. Insomnia. History of paralytic attack two days before entrance.

*Physical Examination.* Pale, thin man. Aortitis. Argyll-Robertson pupils. Very lively ankle and knee jerks. Homolateral and contralateral adductors. Skin reflexes absent. Speech defect.

*Mental Examination.* Poor grasp on surroundings; recent memory defect although remote memory seems good; educational tests well answered except where recent events are concerned. He is rather choleric and irritable, but on the whole formal and courteous. Flow of thought not remarkable. No insight. Wassermann in blood and spinal fluid, positive. Cell count 30, glob. and alb. increased.

*Treatment.* April 22, .9 gr. neosalvarsan.

April 29, seems to be slightly improved. Answers questions fairly well. Hard to please in the choice of books, which he continually asks for and reads.

April 30, .9 gr. neosalvarsan.

May 1, Wassermann reaction, serum positive.

May 15, .45 gr. neosalvarsan.

May 17, Wassermann reaction, serum positive.

May 28, .45 gr. neosalvarsan.

May 31, Wassermann reaction, serum positive. Fifteen c.c. intradurally. Wassermann reaction at this time positive in spinal fluid. Spinal fluid shows increased cell count, alb. and glob. increase.

June 11, .45 gr. neosalvarsan.

June 14, 30 c.c. serum intradurally. Wassermann reaction, serum positive. Wassermann reaction, spinal fluid positive.

July 19, Wasermann reaction, serum positive; .45 gr. neosalvarsan.

July 20, 30 c.c. serum intradurally. Wassermann reaction, spinal fluid positive; 30 cells, glob. increased.

Aug. 26, .9 gr. neosalvarsan.

Aug. 30, Wassermann reaction, serum positive.

At this point treatment was discontinued. Patient's condition was growing worse, and he seemed weaker and more demented. Bladder trouble was worse. It was impossible to arouse him to long continued conversation although when he did answer, his replies were usually correct and well expressed. Grasp on surroundings very poor.

Sept. 13, note says, "Patient has grown progressively worse. Died today at 4.15 a.m." Autopsy disclosed the usual cerebral and cord findings of general paresis.

*Summary.* A man who received seven doses of neosalvarsan, and three doses of intradural therapy, despite which he grew rapidly worse and died. There was nothing in the clinical history of his case to distinguish it from that of many another man in the late fifties who acquires paresis. Such cases usually last but a short time, and the salvarsan and intradural treatment probably had no influence either in hastening or retarding his death.

Five other cases treated by the intradural method are not here recorded. Of these, one was a tabetic, and, therefore, his record is not pertinent to the question of the value of the use of the intradural method in paresis. It may be stated, however, that it seemed to do but very little good in his case, and even the gastric crises and lightning pains, which it is claimed this treatment helps, were but little affected.

The second case has been diagnosed as cerebral spinal syphilis although it is my opinion that the patient is suffering from general paresis. This patient showed marked improvement, and left the hospital in a state of complete remission. However, it is well to remark that later she wrote me a note on a gorgeously emblazoned New Year's card, although the date of its sending was November 1st. Her judgment of the appropriate, at least, does not seem to have been restored to the normal.

The third patient was a case of precocious cerebral spinal syphilis who made a very good recovery. In his case, however, mercury and the iodides were used *ad lib.* and the part played by the neosalvarsan is in question. However, it undoubtedly helped, but the disease is one that does not resist treatment.

The fourth was a congenital tabetic who received only three treatments and cannot be included in this series.

The fifth was a paretic who stayed in the hospital for two treatments only. He showed no improvement, but is not here recorded because the time of treatment was insufficient.

*Summary of Cases.* Of these eight cases, all undoubted paretics, mostly under forty and only one over fifty, the following has been the fate:

Two died (Nos. 7 and 8 in the series).* Of these, one received five doses of intradural therapy, and the other three doses. The course of both was steadily "down hill," and there is nothing in their clinical histories to indicate that their treatment had the slightest effect upon the disease. In these two cases it is to be noted that there was no change in the Wassermann reaction.

A third (No. 6 in the series), although not definitely a paretic patient on onset of treatment, and having no definite physical signs during treatment, developed in its course the Argyll-Robertson pupils and differences in his tendon reflexes. The case is a critical one for the therapy because this patient was young, robust and received treatment very early in his disease. Far more important than the fluctuation of the Wassermann reactions in his history is the appearance of these ominous physical changes. They mark a distinct progress in the lesions of paresis. Despite the clearing up of the mental signs, his case can be said to have advanced steadily, despite intensified treatment. Moreover, the disappearance of the mental signs has to be considered more in the light of a remission than as due to treatment. It is to be noted that at the onset of his disease the Wassermann reaction in spinal fluid was negative. At the present time, it is positive, so that in this respect, too, he is worse than he was. Moreover, the patient, while maintaining a robust appearance, has a pallor which William N. Graves,[5] of St. Louis describes as cachectic, that is, a sickly look with no apparent loss of hemoglobin. He looks distinctly sicker than on entrance to the hospital and before the beginning of his treatment.

Another case (No. 2 in the series) was discharged unimproved. He received only three doses of salvarsanized serum intradurally, and four doses of salvarsan. His case may be dismissed as being indifferent in its application to the question whether or not salvarsanized serum is of benefit to paresis. It is true that the spinal fluid showed changes, but how far these are related to definite improvement is one of the points at issue.

The fifth case (No. 5 in the series) showed very definite serological changes. Wassermann reaction early became negative and remained negative, but it is to be remarked remained negative, although the intradural treatments had been discontinued and only neosalvarsan intravenously administered. There was no definite clinical improvement manifested. Patient said that the pains were less, but as a matter of fact this seems to have been due rather to euphoria than to actual diminution of the symptom, for at different times it was noted that he was suffering from pain. The salvarsan probably caused an enteritis in his case for a bloody diarrhea was noted several times. After the treatment was discontinued the deterioration and downward progress became marked. Nevertheless, the Wassermann reaction in blood at present is negative.

In a general way what has been said of the above case will apply to the next two cases (No. 1 and No. 4 in the series). In both of these cases the Wassermann reaction was exceedingly variable, in general favorably influenced by the treatment. Moreover, the cell count, the globulin and albumen all were reduced at various times by this treatment. There was, however, no abatement in physical or mental signs. The patients did not look better, feel better or act better. Following the discontinuance of the treatment, the progress downward was marked, showing that the treatment in no wise stopped the disease, although it may have checked it for a time. It would almost seem as if its discontinuance accelerated the normal progress, if such a term can be employed, of the disease. At any rate one cannot claim much for a treatment which when employed as consistently and frequently as in these cases, after it has been discontinued for three months, finds the patients far worse off than when the treatment was initiated.

The last case (No. 3 in the series) has shown what might seem to be the most favorable results of the treatment. A maniacal patient, deluded and hallucinated, all the reactions present in blood and spinal fluid, for a time showed a complete remission, and following the discontinuance of the treatment developed ony a few hypochondriacal ideas. Wassermann reaction at the present time is doubtful, cells and globulin almost vanished, albumen greatly reduced. At first glance this would seem to be a splendid recommendation for the treatment, but it is to be noted against this view that the remission started before the treatment was instituted and was almost complete when the first dose of neosalvarsan was administered. In a disease so eminently one of remissions, one must be exceedingly careful in interpreting what one finds as the result of treatment. There are cases on rec-

* Since this paper was written No. 1 of these cases has died, making a total of three deaths. This is a larger ratio of mortality than is usual in the first year of paresis.

ord in the Taunton State Hospital where the remission had lasted two and more years, and undoubtedly such histories can be more than duplicated by any other hospital Moreover, the patient looks worse than he did when treatment was first started His color is not so good—it is more yellowish than formerly He is more listless and despondent

CONCLUSIONS.

1. Patients receiving this form of treatment show changes probably as the result of it. These changes are mostly limited to the disappearance of the Wassermann reaction and alterations in chemical-cytological composition of the spinal fluid. On the whole, no clinical improvement can be recorded which cannot otherwise be accounted for.

2. As has been stated in a previous paper, the order of changes is somewhat as follows: The Wassermann reaction seems to be the most variable—the first to disappear, the least stable. The difficulty in evaluating the Wassermann reaction lies mostly in the fact that the results obtained by various laboratories vary according to the ability of the technician and serologist. In the case of these patients, all the work was done in one laboratory, the same method used throughout, and thus a fairly standard Wassermann reaction can be recorded.

The cell count seems to have been the next most variable constituent. It seems to be profoundly affected by the treatment, but a reduction must not be taken too optimistically. It will be noted that in the case of H. N. (No. 3 in the series) the cell count was 50 after treatment was discontinued. Later on, without treatment, it dropped to 0 for no well defined reason. Since the examiner was the same in both cases and used the same technic and care, it is probable that the record is faithful to the facts at each time.

The globulin is perhaps a little less variable than the cell count, that is it does not diminish so much under treatment, and it rarely completely disappears.

Finally, the albumen content is the most constant of all, and is least affected by treatment. (For details regarding the albumen test, see writer's paper in the *Journal of Nervous and Mental Diseases.*)

Homer Swift,[6] in a discussion before the New York Society of Neurology, stated that in his opinion the cell count was the most variable of the reactions, and the Wassermann next, both differing, however, very little from each other in their constancy. Next in permanency he found the globulin test. He does not record the albumen content. It will be seen that his results differ but little from my own, there being merely a transposition in relation between Wassermann reaction and cell count. Since the difference between the two is not very great, his findings and mine are essentially the same, except that I have added to the test recorded the total albumen content.

3. The Wassermann reaction probably is not nearly so important a criterion of improvement or recovery as it is frequently held to be. This statement is substantiated by the following facts:

First, It seems to be capricious in its appearance and disappearance. That is to say, there is no ascertainable relationship between it and the clinical conditions of the patient.

Second, As is shown in No. 4 and No. 5 of this series, the patients' condition may gradually grow worse both physically and mentally and the Wassermann reaction remain negative. This fact is perhaps the most important of those disclosed in the investigation of the treatment.

Third, It is generally assumed that a change for the better is accompanied by a Wassermann negative—a change for the worse, by a Wassermann positive. Whatever the Wassermann reaction may mean, it does not measure the full scope of the paretic process. It represents a diagnostic feature of great importance, but we must learn to separate the diagnostic facts from the pathogenetic facts.[7] The treatment here recorded changes the process of the disease in that part of it from which originates the alterations leading to the appearance of the Wassermann reaction, but unfortunately these alterations are but a part of those occurring in the total disease process.

4. What has been said of the Wasermann reaction applies in a lesser degree to the chemical and cytological changes. It is probably true that the criterion of recovery or progress at present must be in the field of the clinical manifestations.

5. Finally, it must be stated that the theoretical grounds upon which this treatment is based do not seem to me to be valid. It is assumed that because the Wassermann reaction is most constant an hour after the administration of salvarsan, therefore the blood at that time contains more anti-bodies. This, of course, is by no means certain, for the meaning of the Wassermann reaction is unknown. Furthermore, it seems to be the opinion, shared by Swift and Ellis, that the nervous system is inaccessible to medicament administered in the usual channels. One hears the term "inaccessibility of the nervous system" quite frequently, yet a little reflection shows there is no such thing. The effects of opium, chloral, bromide, alcohol, strychnia, and certain of the toxins of infectious diseases seem notably to affect the brain and nervous system, and to do this through the blood stream. The appearance of headache following all kinds of bodily disorders contradicts the assertion of the inaccessibility of the nervous system most emphatically. Further, it is assumed that the introduction of medicament into the cerebro-spinal space can affect the brain favorably and locally. Undoubtedly such administration does affect those local conditions,

which are largely meningeal, as, for example, cerebro-spinal meningitis, cerebro-spinal syphilis, gummatous conditions, etc. But in paresis the bulk of the lesions are deep and spirochetes have been discovered only in the cortical substance itself. Now the current of the spinal fluid, if there be a current, is not into the cortical substance or brain tissue. Whatever be the origin of this fluid, whether secreted by the choroid plexus, whether dialyzed from the blood stream as claimed by Metrazat, or the product of the pial endothelium, its direction is from the cortical substance and the brain tissue in general, rather than towards it. So that logically intradural treatment for paresis would fail, and the only reason that the salvarsan does not cure in the case of paresis is because there is either a lack of some intermediary substance to unite it with the spirochete or else because the spirochete has acquired new resistance by reason of its long stay in the body of its host.

Moreover, despite the discovery of Noguchi, that the spirochete pallida is present in the brain of paretics it is probable that the sum total of the paretic process is something more than chronic syphilis, or at least a degenerative process has been added, which it is difficult to stay.

There seems to be another reason for the failure of salvarsanized serum in this treatment. Granted that its theoretical basis be correct, and that the introduction into the intradural spaces can locally and favorably influence general paresis, the amount introduced seems utterly insufficient. Of all the blood in the body, 50 c.c. are removed one hour after salvarsan has been administered. Such an insignificant fraction of the total amount of the blood present can contain only a very small amount of salvarsan. Its introduction seems *a priori* to be adding but little of local treatment to that of the salvarsanized blood stream itself.

However, the treatment merits further trial. It should not be administered to every paretic in the hospital, as some men seem to feel, but should be used on selected groups of cases. It would be very wise not to hold out hopes to the relatives or to the patient, because the result will probably be disappointment. Experience with this treatment teaches much about paresis and leads to the hope that there is a cure for the disease since we now know that it can be profoundly affected, but as far as my experience goes, the Swift-Ellis method is not the looked-for cure.

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## HIP FRACTURES AND THEIR TREATMENT.*

BY FREDERIC J. COTTON, M.D., BOSTON.

For a century past, at least, fracture of the hip has been the dread of surgical practitioners, and much has been written about treatment. What has been done, or claimed, of late years as to the treatment of hip fracture has, however, largely ignored an important distinction that our predecessors, beginning with Astley Cooper, understood pretty clearly. Let us put the distinction in this way—the danger of non-union applies only to fractures close to the head of the femur. (Figs. 3, 4, 5, 6, 14, 15, 16, 17.)

We know that impacted fixed fractures close to the head often unite, and may achieve bony union. (Figs. 10 and 11.) Loose fractures at this point stay loose. (Figs. 13, 14, 15.) How far the distinction between intra and extra-capsular fractures is important, we do not know even now, but the clinical rule as given above will hold.

What has confused the question of results so long is the fact that "inter-trochanteric" fractures proceed to bony union despite surgical pessimism, despite the worst treatment. (Figs. 21 to 25.) In such fractures the possibilities of deformity are grotesque, (Fig. 23) but non-union is negligibly rare.†

Non-union in fractures of the neck proper on the contrary is not rare, and even in cases showing apparent impaction at first, this impaction not infrequently gives way in the early weeks of treatment despite careful routine fixation. (Figs. 3, 6, 15, 16, 17.)

At best there is always some bone absorption in these cases, even when such absorption is associated with the repair process. The original impaction is modified, even though a serviceable entanglement of fragments persists. (Figs. 10 and 11.)

The methods of treatment advocated have, in a large measure, lost sight of the working classification here hinted at.

For practical purposes this classification, and

* Read for the writer by Halsey B. Loder, M.D., before the Essex North District Medical Society, October 8, 1913.

† Murphy has shown good plates of one case of non-union at this point. I have yet to meet with a case personally.

the results attained in the different classes, may be given as follows:

*Fractures in the trochanteric region.* These, as already noted, almost invariably unite by bone, though often with great deformity, and not rarely with some resultant disability, from sheer distortion. (Figs. 7, 8, 9, 21, 22, 23, 24, 25, 26, 27, 28, 29.)

*Fractures of the neck proper.*

(a) *Cracks*: They do well unless extraordinarily badly handled. (Fig. 1.)

(b) *Solid* Impactions: They unite with shortening and with more or less deformity in eversion, but solidly. The clinical results are fair to good. (Fig. 2.)

(c) *Imperfect* Impactions: The common type. In these cases, the impaction, more or less solid, tends to perpetuate a deformity in shortening and eversion, more or less extreme; in some cases the impaction gives away, or is broken up even without accident or obvious neglect of precaution. These cases then fall into the class of loose fractures to be considered presently. (Figs. 3, 16, 17, and 18.)

As a rule, however, these imperfect impactions hold until the break unites, and, in many cases at least, unites by bony union, leaving more or less disability but only *from distortion.*

This result, often the best we can hope for, is not ideal, and in the cases occurring in the more vigorous class of patients, young or old, the question, constantly recurring of late, is whether correction of deformity may not be attained without risking the prospect of firm union.

(d) *Loose fractures* of the neck. These cases differ in no way, to start with, from the impacted cases, save in the *accidental absence* of *impaction.* Unfortunately loose hip-fractures at the neck, ("sub-capital" fractures as Ruth calls them), do not unite by bone, are very apt to fail of even a serviceable fibrous union, and usually enough give a hip that is not very useful. (Figs 5, 12, 13, 14, 15, 18, 19, and 20.)

So much for the natural history of these cases, without treatment, or under average routine treatment.

The time available does not allow of proof of statements already made, but the statements rest not only on impressions, but also on the careful investigation of a considerable series of cases by the writer, (with the assistance of Dr. Andrew Cornwall) shortly to be published. Scudder's published results confirm our data.

Now, as to treatment: We have to choose from—

(a) The old routine; fixation, with or without traction.

(b) The Shaffer-Whitman method.

(c) Senn's pressure method.

(d) Phillips-Maxwell-Ruth method.

(e) Cotton impaction method with fixation in abduction.*

(f) Operative treatment.

There is something to be said for each method listed, though no one, apparently, is using Senn's scheme today. But not one of the six methods is a desirable routine for all cases. Routine must vary with the case.

There are cases occurring in feeble and aged individuals in which we must almost entirely neglect treatment of the fracture to save the patient's life, and many cases that are going to die under any treatment, or under no treatment. There is no doubt that this class of cases is real, but *over-regard* for the *patients' safety* is apt to lead to *under-regard* of the *problem* of *treatment.*

Most cases of hip-fracture can be treated with regard to the lesion—treated surgically—and are apt to be more rather than less comfortable, if furnished proper support. There can be no rule in this matter, and no statement may be made safely save that the number of cases in which surgical treatment may not be carried out is small.

Leaving this small class of cases aside, the factor *first* to be considered is the lesion.

First, as to the fractures of the base of the neck,—the extra-capsular type. In these, our problem concerns two things—avoidance or correction of deformity, and fixation of the fragments till repair is solid. We need have no fear in these cases of breaking up the impaction. The deformity to be guarded against is practically always: first, eversion; secondly, a diminution of the angle of the neck with the shaft,—a coxa vara deformity. (Figs. 21, 24, and 25.) Simple rotation takes care of the first, the second is to be corrected by traction alone, or traction with abduction. The success of this correction is to be appraised by measurement of the length of the leg taken from the anterior superior spine to the inner malleolus, or to the heel. These correction manoeuvres can hardly be done without anaesthesia—at least I have tried it but once, but the anaesthesia may be very light. If anaesthesia is not practicable, we must accept imperfect correction.

*Now as to fixation*: We have to guard not only against immediate recurrence of displacement, but against the tendency to slow yielding to muscle pull, even after union has begun. (Figs. 23, 24, 25.)

The usual routine, sand bags, or long splints, or moderate weight traction, do not accomplish this.

We may work effectively in this direction in three ways. We may adopt the method known as Whitman's, (though Shaffer originated it back in 1886), the abduction method. Shaffer

* Reported in *American Journal of Orthopedic Surgery*, May, 1911.

combined direct pressure on the trochanter with abduction. The method as now employed is pure abduction. It rests on the theory that if the femur is abducted far enough the limit of motion at the hip is reached, the upper fragment stops, and the shaft is further abducted till it comes into normal relation to the upper fragment. This is approximately true at least, and more than that, forced abduction brings the long, strong adductors taut, and so drives the fragments into contact. (Fig. 26.) This brings in another factor, the possibility of fragments slipping by under this pressure. (Fig. 27.)

I have felt safer, before abducting, in correcting the deformity by rotation and traction, then *impacting* lightly with a *mallet*, then carrying the leg into abduction. In this way the chance of slipping seems to be obviated. I have done it in a number of cases and it seems to work out well. (Figs. 28, 29.) These fractures are apt to be splintered more or less, therefore the force used in impacting must be guarded, but in no case has any harm been done. I do not claim that even in this way *perfect* reduction can be obtained, or that we have positive assurance against the slow development of coxa vara.

It is fair, however, to claim very satisfactory results from abduction alone. (Figs. 26, 27, 30.)

In favor of the abduction position is another fact little dwelt on, namely: the avoidance of contracture. In all hip-fractures, the tendency is for the leg to pull over into adduction, and when the patient begins to get about, the adduction contracture is a very serious and often permanent factor in the lameness. (Fig. 31.) This the abduction treatment avoids, a rather important item.

Now there is an altogether different way of going about the handling of these cases, namely,—the so-called "anatomic" method of Ruth of Des Moines, used earlier by Phillips and by Maxwell, a method we in the East know little about. I have lately had a chance to see Ruth apply it, and to discuss the matter with him. He applies it to everything, which seems irrational to me. As yet, all his specimens and tested results shown are of fractures at the *base* of the neck. There is something in the method; the results seem good, and it may be as good as the impaction-abduction scheme I am using *for these inter-trochanteric cases.*

The treatment consists of manual reduction in flexion, (to relax the ileo-psoas) then downward traction to do away with the shortening, then the application of substantial weight-traction in the line of the limb, and lateral traction on the thigh next the groin. There is no reason why this traction treatment may not be carried out in moderate abduction. It looks more comfortable than a plaster spica, and it may be that Whitman and I must abdicate in Ruth's favor for *this class* of *basal* fractures.

Now as to the fractures of the neck proper, the intra-capsular type. In this class of cases I am going to leave Ruth's method out of consideration; for this class it is *not* anatomic so far as I can reason, and it seems inevitable that lateral traction must tend to separate the fracture surfaces; a disadvantage in these cases far out-weighing the question of improved position, for our chance of union depends upon *fixed* and *absolute contact.* Moreover, I have not yet seen any real analysis of results in *this class* of cases under this routine.

Neither do I agree with Whitman entirely, so here is my notion of the matter.

There are cases in which there is only a crack, or a negligible displacement only; others, more often seen, in which there is deformity, but not enough to justify the anaesthesia almost essential to any accurate correction.

These cases I am perfectly content to let alone, holding the legs fixed (usually with sand bags) in an abduction sufficient to ensure against adduction contracture. Only in a minority of the cases has it seemed to me justifiable to use the plaster spica for fixation, except in cases calling for actual correction of position.*

There remain the many cases of true neck-fracture (so-called intra-capsular fractures) in which there was no real impaction at the start, or in which the impaction has given way spontaneously, or in which the x-ray shows the impaction to be poor and the surfaces badly fitted, or in which there is really considerable eversion, or shortening.

In all these cases I agree with Whitman—*the position should be corrected.* This does not usually mean "breaking-up" the impaction loosely. The impaction is remodelled, so to speak, becoming looser, but not really loose at any stage in the proceeding.

I also agree with Whitman that fixation in abduction is desirable but here is where I go further. After correction, before the abduction, I impact!

With the bone-surfaces accurately adjusted by proper traction and rotation, impaction is carried out with a large heavy mallet, slowly swung, striking the trochanter, which is protected with felt. The impaction *does* take place, corresponding to the accidental, primary impaction of the lucky cases, probably never very deep, but enough to ensure better contact. All we know about these fractures tells us that repair (slow at best, especially on the part of the poorly nourished upper fragment) depends on *accurate coaptation,* and *absolute fixation* of the broken surfaces. *This can be obtained with the mallet.* Whether it can be obtained by mere abduction we do not know. (Figs. 32, 33, 34.)

* Since the above was written, I am using the spica more frequently, because I find these old folks easier to handle and more comfortable, if treated in this way.

None of us can talk much about series of cases, accurately studied; these patients are curiously hard to follow, it is nearly impossible to get them back to an x-ray machine, and only by studying "push and pull" x-rays, can we ever be sure about the existence of bony union in any case. (Figs. 14, 15, 17, 18, 19, 20, 21, 22.)

About three years ago I first began taking these "push and pull" plates. If we have one plate taken while a traction of perhaps fifty pounds is exerted by hand on the foot, and another in which an upward thrust is exerted, there is even in the best fibrous unions, a perfectly definite difference in the pictures. Even where the up and down motion is so little as to be in doubt, the comparisons of the two positions show at least a rocking head. (Figs. 15, 17.) These pictures are easy to take; they are conclusive, and only after testing our fracture results in this way can we justifiably talk about *bony* union.

In the meantime, I regard impaction as at least an important safe-guard. In the extra-capsular cases it helps hold them (Figs. 28, 29), but is not essential. In the fractures of the neck proper I believe we have no right to leave the fracture without making sure there is impaction. The failure of bony union is too serious to take chances on. (Figs. 32, 33, 34.)

Open operation calls for only a short notice. Never in order in fresh cases, it is restricted to those cases of fracture of the neck in which the closed method has failed.

Radical refreshing of the surface of fragments through the anterior route of approach, and correction of position is the only method. When we have gone so far, it is probably best to nail the fragments. I have had successes with simple fixation in forced abduction and have tried impaction with good result, but the nail is probably always advisable. It must be a *temporary* nail, by choice a 4½ inch or 5 inch wire-nail spike driven in through a small incision through trochanter and neck till it appears in the gap between fragments, then driven forward three-quarters of an inch farther. Its head projects through the skin enough to get hold of it, comes out easily after three to six weeks, and leaves no irritant foreign body behind after it has done its work of fixation. (Fig. 35.)

In some cases (a minority, I fear) I have been able to demonstrate bony union.

In conclusion, I believe in the abduction principle, but not as a cure-all method; and I believe no less firmly in the principle of ensuring real fixation by artificial impaction, again, not as a cure-all, but as a method of real value.

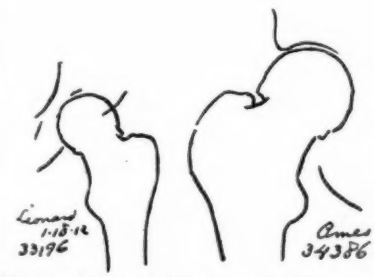

FIG. 1.—Crack of femoral neck: displacement inconsiderable.



FIG. 2.—True impaction of femoral neck.

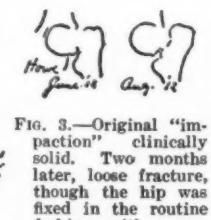

FIG. 3.—Original "impaction" clinically solid. Two months later, loose fracture, though the hip was fixed in the routine fashion, with a special nurse in charge.

FIG. 4.—Three different cases of "impaction" of the usual type: note the spur on the lower fragment—the *only* support.

FIG. 5.—Loose fracture: Two positions taken on the same day (not "push and pull" pictures).

FIG. 6.—Supposedly impacted fracture that "fell apart." The x-ray confirms the illusory sort of impaction present.

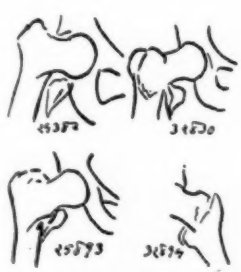

FIG. 7.—Types of basal fracture.

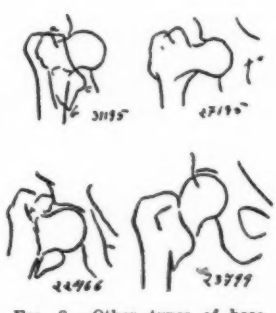

FIG. 8.—Other types of base fracture of not unusual occurrence.

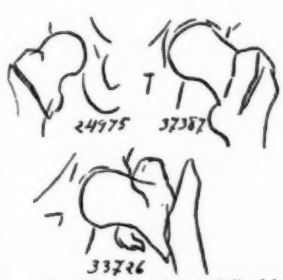

FIG. 9.—"Intertrochanteric" hip fractures.

FIG. 10.—Crack of femoral neck. Picture 18 days later, showing absorption, though union was in the end by solid bone.

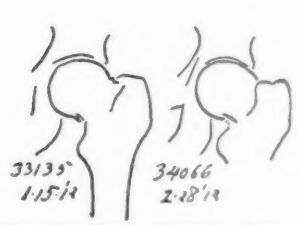


FIG. 11.—Crack: absorption shown 44 days later. Admirable clinical result, probably bony union.

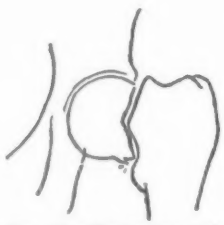

FIG. 12.—Non-union; note the sclerotic surfaces of the opposed bone ends.

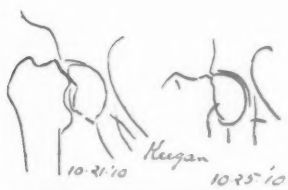


FIG. 13.—Fracture entirely loose from the beginning. Views four days apart.

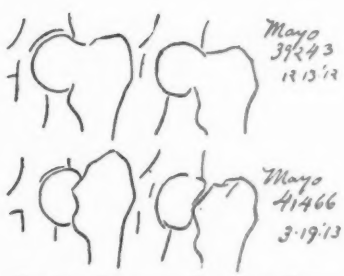


FIG. 14.—Progressive loosening; fibrous union; above, "push and pull"; below, the same case three months later.

FIG. 15.—"Push and pull" x-ray five months after the accident. Here as in Fig. 17, rotation of the head is an important part of the displacement.

FIG. 16.—"Impaction" that broke up in bed under very careful treatment.

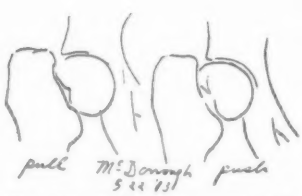


FIG. 17.—Same case as Fig. 16, "push and pull" five months later; close fibrous union; note that the displacement is hardly more than a *rotation* of the *head* of the femur.

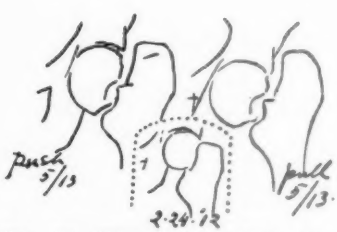


FIG. 18.—"Impacted" fracture, see lower outline. Above, to the left is the "push" picture, to the right the "pull" outline. Obviously, there is only *fibrous* union. The clinical result is poor.

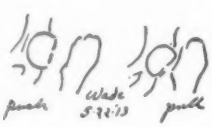


FIG. 19.—Absolutely loose fracture, a year after the injury. "Push and pull" picture. The clinical result was very poor.

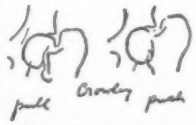


FIG. 20. — *Close* fibrous union, push and pull pictures.

FIG. 21. — Base fracture (old) with coxa vara. The "push and pull" pictures in this case were identical: *i.e.* union was by bone, as *always* in treated basal fractures.

FIG. 22.—Base fracture (old) showing "push and pull" composite. Outlines identical: *i.e.* union by *bone* as *always* in this type.

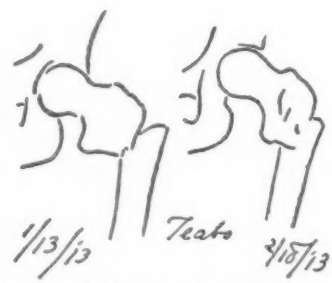


FIG. 23.—Subtrochanteric fracture. There was grotesque deformity but solid union. Later I took this fracture apart, spiked it and got a solid union with a very serviceable hip as a result.

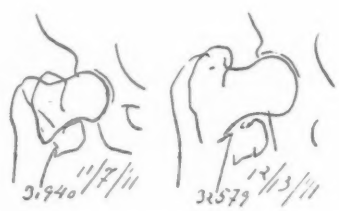


FIG. 24. — Base fracture, — typical. Shows the development of moderate coxa vara deformity during a month of treatment in *fixation without abduction.*

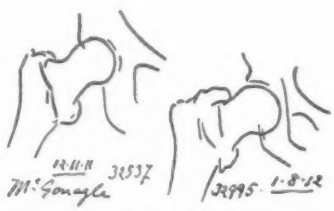


FIG. 25.—Basal fracture: outline to the right shows the development of coxa vara deformity (slight) in four weeks of *fixation without abduction.*

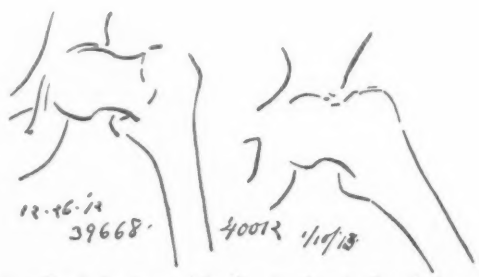


FIG. 26.—Basal fracture, abduction treatment (in plaster spica); results two weeks later, neck shortened, but angle of neck near normal.

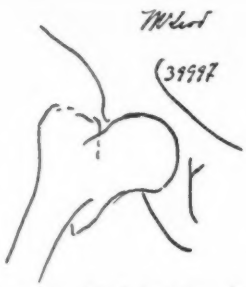

FIG. 27.—Basal fracture: abduction in plaster spica. Riding by of fragments under the abduction pull.

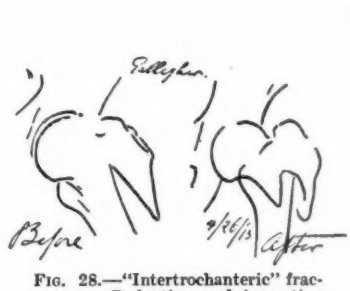

FIG. 28.—"Intertrochanteric" fracture. Reduction and impaction with the mallet. Distinctly improved position. Union solid. Clinical results excellent.

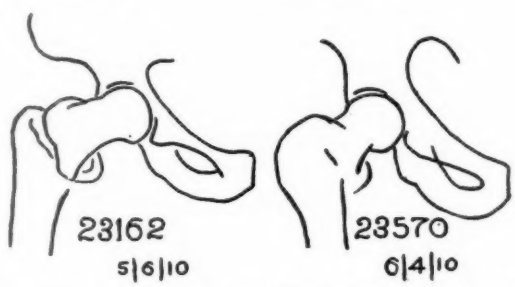


FIG. 29.—Base fracture before and after *impaction with the mallet.*

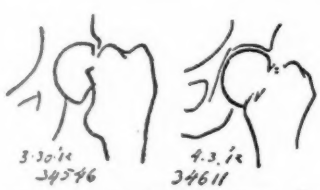

FIG. 30.—Neck fracture proper. Before and after forced abduction and application of a plaster spica. Note the betterment in angle and in shortening.

FIG. 31.—To the left, neck fracture in fair position with adduction from muscle pull; to the right abduction from actual bony deformity: I believe the two to be equally crippling.

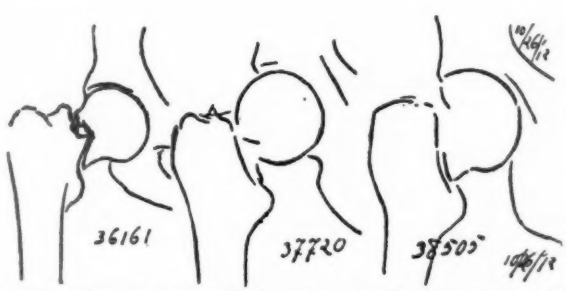


FIG. 32.—Tracing to the left shows the original "impaction." The patient was discharged, but presently returned with the obviously loose fracture shown in the middle plate. Under ether, impaction was performed with the mallet. Clinically the result was excellent; for detailed data see the outline at the right.

FIG. 33.—Loose fracture of neck, shown after impaction with the mallet. The patient died of lung edema after a month, but with the impaction still solid.

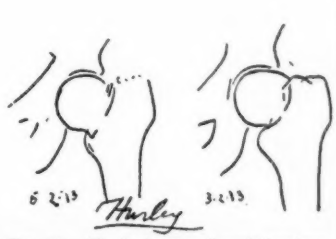

FIG. 34.—Much shortened neck fracture. Reduction under ether; impaction with mallet; plaster spica in abduction; result shown at two months. Union apparently solid. Later clinical result excellent.

FIG. 35.—Operative case (temporary spike), six months after operation (14 months after the accident). There is a close union but it is a fibrous, not a bony union. Results of operation are good but operation does not ensure bony union.

## THE EXPERIMENTAL METHOD AS UTILIZED IN THE CLINICO-PATHOLOGICAL CONFERENCE.

BY HOWARD T. KARSNER, M.D., BOSTON.

Experience with the experimental method as a regular part of the course in pathology has demonstrated its value. How much time shall be allotted to this type of work remains a problem for each director of the undergraduate work in pathology. The same is true in regard to the degree of participation by the student in such exercises. A scheme for the participation of students in the actual performance of experiments has been outlined in a previous paper[1] and has been operated successfully for three years in the Harvard Medical School. Criticism has been offered to the effect that much of the technique necessary to carrying on the work must be learned by some of the students and that they readily forget these details. This is probably true, but time limitations are such that a course of this kind cannot have as its function instruction in technical procedures to large classes. The participation of the students must have for its purpose contact with experimental procedures, not so much for the technique as for the point of view which it engenders. This point of view has its value not only in pathology but in all the work of the medical course and it is a point of view that cannot be gained by observation of the results of others nearly so well or so permanently as by actual participation, a truism that forms the basis for all laboratory training. In its ultimate analysis, experimental pathology means simply the adoption by the trained pathologist of the methods of physiology, chemistry, surgery, immunology and bacteriology. The teaching of experimental pathology then is simply the utilization of these methods in explaining the processes and products of disease. Properly applied this form of teaching does not ignore the anatomy and histology of the lesions; to the contrary, it emphasizes the importance of the lesions by showing the correlated functional change. It is difficult for the bio-chemist and physiologist to make extensive clinical application of their

[1] Karsner, H. T.: The Function of the Experimental Method in the Course in Pathology, BOSTON MED. AND SURG. JOUR., 1912, vol. clxvii, p. 531.

work in the undergraduate courses because the students at that stage in the graded course have little or no knowledge of pathological anatomy. Hence, the teaching of pathological physiology in its broadest sense devolves upon the experimental pathologist. The gap between the clinic and the fundamental sciences is one of the penalties of the graded course and even with the institution of work in experimental pathology it is not completely bridged. Unfortunately, from this particular point of view, much of the work in the fundamental sciences is taught with reference to pure science rather than to the applied science of medicine and in many respects this is necessary. To overcome this difficulty various schemes have been devised, such as the new method of examinations in the Harvard Medical School whereby it is necessary for the student to pass a general collective examination in all the subjects of the first two years at the end of that period and in all the subjects of the second two years at the end of his course. There can be no question of the value of this particular scheme. Uniformity of ideals on the part of teachers and close coordination of the teaching of the fundamental sciences and of the clinical branches can do much to aid the student in correlating in his own mind all the subjects of the medical curriculum. The necessity for such close coordination of teachers has been made the basis for the appointment to the Children's Hospital in affiliation with the Harvard Medical School of the heads of the departments of bacteriology, bio-chemistry, pharmacology, physiology and experimental pathology, the heads of these scientific departments to have rank on the visiting staff with the visiting physicians and surgeons. This cannot but react beneficially on the work of the school and the hospital and to the mutual advantage of physician, student and patient, in regard to diagnosis and treatment as well as teaching and investigation. It must have been the same spirit of cooperation that led to the establishment abroad and in this country of the various exercises in clinico-pathological correlation. With the modern development of the fundamental sciences and the institution of undergraduate work in experimental pathology such exercises have become inadequate and it becomes necessary to include in such conferences the related alterations of function. It would be well if the conferences could command the services of workers in the various special fields and it is hoped that the future will produce such a cooperative scheme, but at the present time the experimental pathologist is obliged to fill in the details of processes and functions which are necessary to make clear the relation between the pathological lesions (including their relations to each other) and the clinical case. That such a scheme is practicable is illustrated by the account of the exercises which have been conducted by the writer with the invaluable aid of Dr. Francis W. Peabody whose clinical material in the service of Dr. H. A. Christian at the Peter Bent Brigham Hospital has been utilized to the fullest degree, and whose sympathy and aid have made the fulfillment of the idea possible. As will be seen, Dr. Peabody has taken an active part in each exercise. The exercises outlined require the affiliation of the school with an active hospital, in which clinical cases are studied intimately, careful records kept and autopsies performed upon a large number of fatal cases. The exercises, as conducted, were irregularly interspersed in the course, necessarily so because they depended upon seizing opportunity as material came to hand. They can be arranged more regularly by the accumulation in the pathological department of gross material from suitable cases. Every large hospital usually has in its wards the clinical cases demanded in the exercises. The success of the first exercise, whose outline follows, stimulated the planning of the equally successful subsequent exercises. The exercises occupied about three hours, a rest period of ten minutes being provided at the end of each hour. They presuppose considerable preliminary work on the part of the students and it has therefor been considered unwise to attempt these exercises until the students have had eight weeks work in pathology as conducted under the concentration method of the Harvard Medical School.

EXERCISE 1. Aortic valvular disease.

A. Seven formalin preserved human hearts showing aortic disease were given to seven pairs of students; the hearts were studied and the students were quizzed by Dr. Karsner in the presence of their classmates, the entire class taking part in the conference on each specimen.

B. Demonstration of physiological tracing of pulse and blood-pressure from a dog with experimental aortic stenosis. The demonstration was by the five students who had participated in the experiment, and the students were reminded that they had listened with the multiple stethoscope to the murmur in this animal.

C. Demonstration by students of physiological tracing of pulse and blood-pressure from a dog with experimental aortic regurgitation.

D. Demonstration by Dr. Peabody of a human patient with double aortic murmur. Students listened to murmurs with multiple stethoscope.

E. Reading of case history of a case of aortic stenosis and summary by Dr. Peabody. Demonstration by Dr. Karsner of the fresh autopsy material from this case. Conference on the pathological anatomy, physiology and clinic of this case by Drs. Karsner, Peabody and class.

EXERCISE 2. Arterio-sclerosis.

A. Demonstration by students of ten gross specimens of arterio-sclerosis; conference.

B. Demonstration by students of adrenalin arterio-sclerosis in the rabbit. Conference on the theories of the development of arterio-sclerosis, including brief discussion of cholesterol sclerosis and lactic acid sclerosis.

Vesalianum or bone of Vesalius. Female, 12 years, November, 1913. Thought to be Jones' fracture of metatarsal, left foot. Right foot shows same variant.

C. Demonstration by Dr. Peabody of a case of syphilitic arterio-sclerosis (aortitis).

D. Case history and summary by Dr. Peabody of a case of syphilitic arterio-sclerosis with aortic regurgitation; demonstration by Dr. Karsner of fresh material from this case.

E. Demonstration by Dr. Peabody of radiographs from a case of peripheral arterio-sclerosis.

F. Case history and summary by Dr. Peabody of a case of peripheral arterio-sclerosis; demonstration by Dr. Karsner of fresh autopsy material from this case.

G. General conference.

Exercise 3. Diabetes mellitus.

A. Fifteen-minute review by one of the students of normal carbohydrate metabolism.

B. Discussion by five students on the basis of their own experiments of the influence on carbohydrate metabolism of pancreatectomy, subcutaneous injections of adrenalin, of morphin, of phlorrhizin and of puncture of the floor of the fourth ventricle.

C. Conference directed by Dr. Karsner on the pathological histology of diabetes mellitus on the basis of material studied during the regular course.

D. Resumé of the pathological physiology of diabetes mellitus in its relation to clinical medicine by Dr. Peabody and exhibition of case of diabetes mellitus of protein origin with complete correlated dietary and urinary charts.

Exercise 4. Nephritis.

A. Demonstration by students of seven specimens of chronic nephritis.

B. Reports by students of the acute nephritis of the rabbit produced by uranium nitrate, potassium chromate, cantharadin, diphtheria toxin, sodium tartrate.

C. Demonstration by students of the simultaneous record of kidney volume, blood-pressure and urine flow of a normal dog and discussion of the pathological variations in acute nephritis.

D. Discussion by Dr. Peabody of the phenolsulphonephthalein functional test.

E. Report by students on basis of their own experiment of retention of non-protein nitrogen in the blood in acute nephritis produced by sodium tartrate.

F. Demonstration by Dr. Peabody of case of chronic nephritis.

G. Case history and summary by Dr. Peabody of a case of chronic nephritis with heart hypertrophy; demonstration by Dr. Karsner of the fresh autopsy material from this case.

Similar, but necessarily somewhat briefer, exercises were conducted on the subjects of pneumonia and of serosis of the liver.

The Samuel D. Gross Prize.—It is announced that essays will be received in competition for the Samuel D. Gross Prize of $1500 until January 1, 1915. Further information may be obtained by addressing Trustees of the Samuel D. Gross Prize, 19 South 22nd Street, Philadelphia, Pa.

## Clinical Department.

### THE VESALIANUM MISTAKEN FOR A FRACTURE OF THE FIFTH METATARSAL BY INVERSION OF THE FOOT.

By William Pearce Coues, M.D., Boston.

The occurrence of the Vesalianum in the foot is so unusual that no reference is made to it in such modern anatomies as Sobotta, Piersol, Gerrish, Morris, Macalister and Gray.

A very few of the x-ray experts with the greatest experience are familiar with its occurrence, and a very few surgeons, although the modern fracture books are silent on the subject of its occurrence and relation to fracture of the base of the fifth metatarsal.

An excellent description is given of this bone, however, in the late Professor Dwight's[1] "Clinical Atlas of the Variations of the Bones of the Hands and Feet." Its rarity may be judged from Professor Dwight's description: "The Vesalianum, corresponding to the bone of the same name of the hand, is the proximal and external part of the tuberosity of the fifth metatarsal. It is excessively rare. I have never seen it in the macerated foot of an adult. Spronck has seen it at birth, and I think I have probably made the same observation. I have once seen it in the skiagraph of a girl of twelve. The entire base of the fifth metatarsal varies much in size. The Vesalianum is usually more or less marked off by a groove on the plantar surface. Grueber has seen a proximal epiphysis not to be confounded with the Vesalianum distinct in the adult."

Professor Dwight shows a plate of the foot of a girl aged 13, showing a separate element very clearly. There was no suspicion of injury. This picture is an exact counterpart of the radiograph of the case reported in every detail.

Report of Case. G. L., 12 years of age, was seen in the surgical clinic of the Boston Dispensary, Nov. 24, 1913. The child was a healthy girl with no history of previous injury to the ankle. While running one week before, she slipped and fell, her left ankle turning under her. She was lame for one week before coming to the clinic. There had been considerable pain in the region of the left ankle for this time

Examination, Nov. 23, showed a fairly well developed and nourished little girl, the left ankle, the seat of the traumatism, was not swollen. There was slight ecchymosis over the external lateral ligament region and pain on pressure over the region of the scaphoid. The motions of the ankle were free; the child walked with a limp. A provisional diagnosis of simple sprain, or a possible fracture of the scaphoid, was made. The foot was immobilized in plaster-of-Paris. The x-ray showed what seemed to

be a fracture of the base of the fifth metatarsal bone, exactly the lesion first described by Robert Jones,[2] in 1902, and of which I have had two recent cases in adults. The occurrence in childhood seemed most unusual. After two weeks or more immobilization, the plaster was removed and an x-ray taken, which showed the supposed fragment in exactly the same condition as before, not united. There was distinct pain on pressure over the base of the fifth metatarsal, however, not present on the right, and it was supposed that the fragment was slow to unite. At the end of another two weeks, the plaster was removed, and another picture taken, which showed the same condition. A picture was now taken of the other ankle, as Dr. H. M. Chase had suggested the possibility of an epiphysis at this place. The radiograph showed the same shell-like bone united to the base of the metatarsal by cartilage. All tenderness had gone from the left foot; the bandage was removed, and weight-bearing begun, with perfect result as regards function. From the tenderness over this region at the time of injury and afterwards, an infraction of the cartilage, uniting the vesalianum to the shaft, could not be ruled out.

The importance of the recognition of this rare abnormality is obvious. Its relation to the cases of fracture of the base of the fifth metatarsal bone by inversion needs further study and elucidation. It is possible that some of the reported cases of this lesion have been this rare anatomical variant, and that others may have been fractures through the line of union to the metatarsal. A radiograph of both feet with a good view of each fifth metatarsal bone should be taken in all cases where the diagnosis of fracture of the base of the fifth metatarsal bone has been made.

REFERENCES.

[1] Dwight: Clinical Atlas of the Variations of the Bones of the Hands and Feet, 1907, p. 21.
[2] Jones, Robert: Annals of Surgery, 1902, vol. xxxv, p. 697.

## New Instruments.

### A NEW COMBINATION TONSIL KNIFE.

BY ROCKWELL A. COFFIN, M.D., BOSTON.

IN devising this instrument the author has combined several knives in one, thus simplifying the enucleation of the tonsil.

The broad flat blade may be used for the first incision along the anterior pillar. The curve of the blade conforms to the contour of the tonsil thus facillitating manipulation of the instrument in the supra-tonsillar fossa, the broad flat end acting as a dissecter if necessary.

While the instrument is made sharp for those who prefer it, the author dulls it slightly in order to prevent injuring the pillars after the field of operation is partly covered with blood and also to reduce the liability to hemorrhage. The instrument was made by M. Uhl, Boston.

## Medical Progress.

### REPORT ON OBSTETRICS.

BY ROBERT L. DENORMANDIE, M.D., BOSTON,

AND

JOHN B. SWIFT, JR., M.D., BOSTON.

#### PITUITARY EXTRACT IN UTERINE INERTIA.

Edgar[1] reports the use of pituitary extract in seventy cases. In these cases he used the preparations of Burroughs Wellcome & Company, Parke Davis & Company and Armour & Company. For decided action of the drug Edgar says 0.4 gram is the initial dose. Repetition of the dose may be called for as the action of the drug disappears in about twenty-five minutes. If no action is secured after the second dose given half an hour after the first, there is no good of further repetition.

Edgar says the extract should have no place in normal labor and its administration should be confined in obstetrics to instances of primary and secondary inertia, to post-partum hemorrhage and Caesarean section.

Theoretically the extract causes intermittent contractions of the uterus, practically with full or repeated doses the contractions approach the tetanic type and clinically must so be reckoned with. Given early in the first stage the extract is equivalent to the use of ergot and must not be used for premature separation of the placenta, fatal compression of the fetus and even uterine rupture have followed its use under these conditions.

In cases presenting a dilated or readily dilatable cervix with inertia existing, without too much resistance the extract renders valuable aid. Edgar observed that the drug acts best at full term in the second stage of labor and is more positive in multiparae than in primiparae. In nineteen cases the drug was used for post-partum hemorrhage and Edgar says the results were disappointing and that he considers its use in these cases unreliable. In Caesarean section the action of the drug was found to be much quicker than ergot. In all cases where it was used to induce labor it failed.

Edgar ends his paper with twenty-four conclusions based on these seventy cases.

PITUITARY EXTRACT IN OBSTETRICAL PRACTICE.

Watson[2] briefly reviews the anatomy and physiology of the pituitary body and then takes up the action of the extract. Watson says that when the extract is given to a woman in labor it quickly causes an increase in the strength of uterine contractions, the duration of contraction is increased and the intervals between the pains shortened. The first contraction he says may be tetanic in character, but they very soon resume their ordinary rhythmic character. Watson says when the drug is given during the first and second stage of labor the results are practically constant, that the results are always most apparent if the pains have been previously feeble occurring at long intervals.

Watson thinks there is little difference in the activity of the preparations now on the market. He advises giving the drug by intramuscular injection and he says no pain follows the injection. Given intravenously pallor, cyanosis, perspiration and a sense of oppression have been reported and therefore is not recommended. Watson also uses as a full dose one cubic centimetre which represents 0.2 gram of the gland substance. There apparently is no cumulative effect of the drug. The effect on the uterus is usually seen within ten minutes and the maximum result is so obtained in from half an hour to an hour and a half after injection. A second injection, Watson says, again stimulates powerful contractions.

Watson is enthusiastic over the action of the drug to accelerate labor when it is already in progress. He says the results are more certain in the second stage than in the first and that the lower the head is in the pelvis the more pronounced is the effect of the drug and that its timely use will save many a forceps operation.

Watson says the use of the extract is indicated in slight contraction of the pelvis, saying, even if forceps should ultimately be required, the more powerful contractions induced, help mould the head and make extraction easier, and that if the drug is going to act it will do so within ten minutes and so no time is lost. He quotes Linzenmeier as urging the use of the extract after pubiotomy. In the earlier part of the first stage the results are not quite so certain, but they are better in multiparae than in primiparae.

Watson says that in severe post-partum hemorrhage he has had no personal experience with it, but in bleeding of minor degree it has produced powerful contractions.

In the induction of labor Watson says there is more or less diversity of opinion but he reports three cases where he used pituitrin; one at the eighth month, one at full term and one three weeks post-term, which were successful. He feels that further trial of the extract is justified. The important point in this type of case he says is to administer a second dose before the effects of the first have passed off.

In placenta praevia, he says, a number of successful results have been recorded, by the extract stimulating strong contractions so that the presenting part is pressed down against the lower uterine segment, and hemorrhage is arrested. When given about two minutes before doing a Caesarean section pituitrin he says has a marked effect in diminishing the loss of blood.

Of the bad effects the drug may have he notes cardiac distress, vertigo, tachycardia, and respiratory difficulty. He suggests that these may have been due to the injection having unknowingly been intravenous. Watson says the drug may set up tonic contractions of the uterus and may cause a spasm of the internal os. The first contraction is usually a prolonged one, one writer having noted pains lasting from four to seventeen minutes. After this first powerful contraction the uterine action is usually normal.

Watson says that these prolonged contractions usually result in a marked slowing of the fetal heart, but that the child is seldom in real danger as the ordinary rhythmic contractions succeed the tonic opening one. One writer reports the death of a child after the injection of 1c.c. of the extract as the result of tetanic contraction, before delivery could be effected with forceps. He quotes Herz as reporting a rupture of the uterus as the result of giving 1 c.c. of pituitrin.

Several writers report spasmodic contractions of the os after the injection of the extract in cases where induction of abortion was desired. One writer reports he had to incise the cervix in one case. Watson says numerous cases have been reported where atony of the uterus followed the termination of the third stage.

The bad effects on the child are due to the prolonged contraction of the uterus.

There is a long bibliography at the close of the article.

ON THE USE OF PITUITARY EXTRACT IN OBSTETRICS.

Harrison[3] begins his article with a short resume of the development of the use of the pituitary extract in obstetrics. He says an examination of the literature shows at least 1650 cases where it has been administered. Harrison says that the use of pituitary extract is not without some danger to the child though danger to the mother seems very slight. He advises that the fetal heart sounds be kept constantly under observation. The danger he says undoubtedly is greatest when the drug is given in the first stage of labor. He states that the majority of observers have found that for the

production of abortion the extract alone is insufficient. He also feels that it is not of any great service in initiating premature labor. He says practically all observers are unanimous in declaring that it is of the greatest value after dilatation of the soft parts and during the expulsion stage of labor where uterine weakness supervenes. Harrison says that of the total number of cases he has found reported there are less than fifty cases of complete failures.

He reports two successful cases in his own practice to illustrate the use of the extract. He also reports two failures, one where the perineum did not relax and the second where the expulsion power of the uterus was not increased. In both these cases forceps delivery was necessary. They are reported without specific data in the most general terms.

Harrison agrees with others that the extract must not be used after the delivery of the child before that of the placenta, because of the danger of tetanus of the uterus and retention. He does not favor its use in post-partum hemorrhage but suggests along with other observers that its use may help the patient to empty her bladder after delivery and that it may prove of use in increasing the milk secretion.

There is a long list of references at the end of the article.

### PITUITRIN.

Melville[4] says his purpose in writing this short paper is to direct the attention of every physician who engages in obstetrical practice to the importance of employing pituitary extract in properly indicated conditions. His experience is limited however to eight cases. He says that two of his cases were primiparae and no unusual lacerations of the soft parts were noted. He says it makes little difference whether the os is dilated or not; delivery follows with accuracy and dispatch. He also states no untoward effect has been noticed upon the child.

### PITUITARY EXTRACT IN OBSTETRICS.

Lindeman[5] feels that in the use of pituitary extract there is the solution of many a difficult obstetric problem, that by its use many forceps operations can be entirely avoided, that inertia uteri can almost be excluded as an indication for forceps, that many "high forceps operations" will be converted into at least a "medium" and not infrequently into a "low" operation.

He says in the class of cases when the head is on the perineum for some time with infrequent and ineffectual pains, the use of pituitrin will almost invariably enable the patient to deliver herself to her great satisfaction and that of her family and the credit of the physician who has refrained from interference and has employed physiological rather than mechanical means to aid delivery.

Lindeman cautions against using the extract before the cervix is well dilated, for he says it acts sometimes with almost unbelievable violence. As an instance of this violence he mentions a case which occurred in the practice of a colleague when such violent contractions occurred that the patient assumed the position of opisthotonos. But he says no harm was done the mother or child.

In cases where the cervix is not over four fingers dilated he advises only using one half an ampoule (0.05 gm.) at a dose and for an initial dose he says one should never use more than 0.1 gm. If 0.2 or 0.4 gm. be used such violent labor may result that even the administration of chloroform may not control it.

He reports the following cases of his experience with the drug:

In Case 1 pituitrin had no effect.

In Case 2 three injections followed by post-partum hemorrhage and manual removal of the placenta. Patient collapsed and then made an uneventful recovery.

Case 3, one injection without effect. Labor then induced by Voorhees bag and delivery completed by forceps.

Case 4, three injections and labor spontaneously completed. In the convalescence developed severe sepsis but eventually recovered.

In these four cases, pituitrin was used to induce labor and two failures and two successes resulted. The remaining six cases which he reports are of cases where labor had begun. In two cases the cervix was fully dilated. In one case the condition of the cervix was not mentioned and in three it was two to four fingers dilated. In five of these six cases delivery was spontaneously accomplished but in the last forceps delivery was necessary. In this last case he first used a Voorhees bag then seven doses of pituitrin and finally delivered the patient by forceps with manual extraction of the placenta. In one case a contraction ring was found.

In no one of the reports is there mention made whether there were any tears of the cervix or perineum.

Lindeman says the contra-indications for the use of pituitrin are (1) In friable, rigid, or diseased cervices; (2) When there is danger of rupture of the uterus, in cases where fibroids are present or in cases where myomectomies have been done or there is a marked disproportion present. (3) Where there already is a too high blood pressure present. (4) The possible formation of a contraction ring. (5) The danger of asphyxia of the infant. Lindeman feels that this latter danger is not likely to occur unless excessive doses are used.

1. He concludes that the drug is of undoubted value in almost all cases of simple inertia, and fatigue.

2. It is of value occasionally for the induction of labor at or near term.

3. That it seems to be practically devoid of harmful effects and its dangers are few and easily guarded against.

PITUITRIN IN OBSTETRICS.

Litzenberg[6] says pituitrin has passed the first stage of neglect by physicians and is now in the second stage of exploitation and he hopes by a few words of timely warning that he will help in preventing the reaction which must inevitably come by too enthusiastic exploitation. He summarizes the findings of many writers who have had varying results and report absolutely contradictory facts.

Litzenberg reports thirty cases of his own with varying results. The reports are so meagre that a good idea of the cases is not obtained. In sixteen of the cases pituitrin acted promptly, slowly in two and no effect in two. Forceps were required in six cases. In one case tetanic contractions occurred; one child was asphyxiated but soon resuscitated; one extensive laceration due to the violent pains produced. Four times the drug was used in the first stage but only once with satisfactory results. In the twenty-two cases in the second stage seventeen responded promptly.

1. He concludes that pituitrin is a valuable stimulant to uterine contractions.

2. That it will not usually produce abortion.

3. That it will sometimes induce premature labor, but that with an undilated cervix it is not to be recommended.

4. That it is most efficacious during the second stage of labor.

5. That it is of some value during the third stage.

6. That after delivery it is of some value but not better than ergot.

7. That its proven value is limited to the second stage.

8. That the knowledge of its action is still limited and its use is not without danger and so must be used with caution.

In the past few years many reports of the use of preparations from the pituitary gland have appeared. The Germans have written much but with contradictory findings. The several pharmacological houses which have put these preparations on the market write most enthusiastically of its use and from the advertisement of one house the physician would gather that there are no contra-indications for its use and that all the problems in obstetrics will be solved if the extract of the pituitary gland is used. The preceding six articles are culled from the recent literature and show the contradictory reports that physicians give in regard to the use of the extract. Melville's enthusiasm based on an experience of eight cases is characteristic of many articles where the physician's apparent one idea is to obtain a delivery with despatch.

The papers based on many cases with a careful analysis of the cases reported show that the extract is most uncertain in its action and at times, not infrequently, is severe damage done. Premature separation of the placenta, tetanic contractions of the uterus, rupture of the uterus, fatal compression of the fetus, all have been reported as following the injection of the extract and yet more than one writer says it is a safe drug!

The consensus of opinion is that to induce premature labor its action is so unreliable that it should not be used. The more conservative and thoughtful physicians demand that it be not used until the os uteri is fully dilated, that there be absolutely no bony resistance to the delivery and that there be no scar tissue present. When these conditions are fulfilled and uterine pains are insufficient to accomplish delivery, then the use of the extract many times will accomplish surprising results.

If it is given, the physician must stay constantly with the patient for as yet there is no way of determining in any given case what action, if any, will result. As one of the above writers truly states the drug is at present being exploited and because of this exploitation much damage will surely result. The extract is a powerful drug and its indiscriminate use is to be fought. Carefully used it will prove a valuable aid in a small class of cases.

*(To be continued.)*

## Reports of Societies.

### PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of Wednesday, Mar. 11, 1914, at 8.30 p.m.

The President, Dr. William Duffield Robinson, in the chair.

INFLAMMATION OF THE GALL-BLADDER; ITS CAUSES, SYMPTOMS AND RESULTS.

Dr. James Tyson: The paper emphasizes the importance of the early surgical treatment of cholelithiasis, the most important consequence of inflammations of the gall bladder. Perhaps the most common cause of inflammation of the gall bladder is the typhoid bacillus which creeps into the common duct from the bowel. The favoring cause may be gall stones pre-existing in the bladder, or they alone may be sufficient to light up an inflammation. Adhesion of the gall bladder to adjacent viscera is a frequent cause of pain in the right upper quadrant. Cholelithiasis may develop entirely independently of gall bladder inflammation. Predisposing causes are sendentary habits, lack of exercise, tight lacing, child-bearing, abdominal tumors,

excessive use of fatty, starchy and saccharine food. The causal relation of stones in the gall bladder and biliary passages to carcinoma is unquestioned, and I believe that every case of well determined cholelithiasis should be promptly operated upon. Histories of three cases are given in support of this view. Among other terminations of cholelithiasis succeeding upon delay in operation which are scarcely less serious than carcinoma are suppurative cholangitis with involvement of the ducts of the liver and extension to the liver substance or gall bladder, and biliary fistulae. It cannot be denied that associated cancers of the gall bladder may have preceded the cholelithiasis, but there is equal reason to believe that they follow. Medical treatment of cholelithiasis is at best but palliative. In doubtful cases, exploratory operation is justifiable. At present operation upon the gall bladder, if done early, is as free from danger to life as is appendectomy.

### THE TREATMENT OF GALL-BLADDER INFECTIONS; WITH A REPORT OF 26 RECENT CASES.

DR. JOHN H. GIBBON: I have substituted the word "infections" for "gall stones" as we now know that the primary cause of these stones is a microbic infection reaching the gall bladder either through the blood or directly through the bile passages from the intestine. The object of the paper is to consider operative indications, present some of the pathological complications arising when these indications are not heeded, and to say something about the post-operative mortality and its causes. The basis of the paper is a series of 26 gall bladder cases upon which I have operated during the past six months. The figures, though small, illustrate every point I would make. If one feels warranted in making a diagnosis of gall-stones or gall-bladder infection, one should also feel warranted in advising operation unless there be some definite contra-indication. To await serious symptoms is comparable to awaiting glandular metastasis and malignant cachexia before making a diagnosis of cancer. The earliest and most persistent symptom of gall bladder infection is what the patient calls "indigestion" or "distention" in the upper abdomen, coming on especially at night and without any definite relation to the taking of food. Jaundice is not essential to a diagnosis; about 80% of operated gall-stone cases have not had this symptom. Gall-bladder symptoms may result also from other causes than the presence of stones and which demand operation.

In the present series there were two cases of acute cholecystitis without stone and three of chronic cholecystitis without stone. In my opinion both patients would have later developed stones had they not been operated upon. The brief series of cases here reported includes three cases of acute gangrenous cholecystitis, all of which recovered; two cases of acute cholecystitis without stone, one developing two weeks after typhoid fever, eight cases of stones in the common duct, one of stone in the ampulla of Vater requiring duodenotomy; one of calcification of the gall bladder, one of abscess formation in the liver and spleen, one of subdiaphragmatic abscess two weeks after operation in a case of acute cholangitis due to stones in the common duct, one of cirrhosis of the liver, one of stones ulcerating into the colon, twenty cases of stones in the gall-bladder alone or associated with some of the enumerated complications, and two cases of cancer of the gall bladder. The greatest number of stones, 771, was found in one of the malignant cases. In the cases in which the duration of symptoms is given the average is over six years. The youngest patient was 19 and the oldest 69 years of age. There were 5 deaths, all of which occurred in very ill patients. Regarding the probability of gall stones reforming after operation, I believe that if all are removed and the gall passages properly drained for about two weeks that recurrence is extremely rare.

### THE ROENTGEN RAYS IN THE DIAGNOSIS OF GALL STONES AND CHOLECYSTITIS AN IMPROVEMENT IN TECHNIC.

DR. GEORGE E. PFAHLER: The improvement in technic consists, in addition to the special technic described by the author in 1910, in the use of (1) a second position by which the rays are directed through the substance of the liver, thereby eliminating the irregular shadow produced by the bowel and its contents; (2) that which is more important, the inflation of the colon, and at times of the stomach, by air, for the purpose of more definitely outlining the gall-bladder and under surface of the liver.

The lantern demonstration consists of a series of slides showing the borders of the liver, gall-bladder and spleen; also a series of 20 cases showing gall-stones, which were confirmed by operation.

As a result of these studies the following conclusions are drawn:—

1. Gall-stones can be shown only when they are composed of a substance of greater or less density than the surrounding tissue. This will usually mean that they must contain some lime salts, though this quantity may be small.

2. My records show positive findings in 74 per cent., but I believe that in general, one cannot count upon more than 50% being demonstrable. I believe a negative diagnosis at present has no value.

3. It is possible that with this improved technic, when we find the gall-bladder small, and still find no stone, it may become of some value in negative diagnosis.

4. The estimation of the value of this method of diagnosis must be based only upon the work of Roentgenologists who have mastered a good technic, and who are thorough in their work.

5. Definite information will be obtained only by continued coöperation of the surgeon and Roentgenologist.

6. I believe that in the future we shall obtain valuable information concerning the liver and spleen by the Roentgen method described.

#### DISCUSSION.

DR. H. A. HARE (Discussion read by Dr. William E. Hughes in the absence of Dr. Hare):

I believe the following statements of Anderson express excellent views and are fairly warranted by our present knowledge:—

1. That while surgical procedure is frequently the best and often the only means offering a chance of relief, its advocacy, based on certainty of cure and assurance of non-recurrence, is not borne out by results.

2. That the main object of treatment is the relief of the infection and inflammatory changes, and not merely the removal of gall-stones. So long as

there is no recurrence of the inflammatory attacks, there will be no attack of gall-stones.

3. That recovery not infrequently occurs under non-operative treatment, especially in early and mild cases, and particularly after first attacks, before serious local damage has been produced by the infection.

4. Medical treatment should be given a fair trial in all cases where the patient's physical condition does not warrant operation, and with the numerous patients who refuse operation. In many such cases Anderson asserts he has seen complete and permanent recovery from all symptoms of the disease.

5. Medical treatment is indicated in many cases as a preliminary to operation, and in order to allow the acute infection to subside as far as possible.

6. Medical treatment is indicated in all cases after operation to allow of complete subsidence of the infection, and if possible, to prevent re-infection and recurrence.

7. Anderson believes that it would make for clearness of thinking and give definiteness to therapeutic aims if we adopted the suggestion of Naunyn and gave up the term cholelithiasis and classified these various infections of the biliary passages and cholangitis with such qualifiying terms as simple, catarrhal, suppurative, gangrenous, calculous, etc., according to the condition present in the particular case.

The paroxysmal nature of the symptoms, and the relief of pain temporarily upon eating are characteristics very suggestive in diagnosis. Probably the one symptom which is never lacking is that of indigestion.

DR. THOMAS R. NEILSON: I think we cannot emphasize too strongly the danger of delaying operation with the diagnosis of cholecystitis fairly made. Although the attacks may subside there is always the danger of recurrence and of the development of malignant disease. The symptom of indigestion as indicative of a chronic lesion of the gall-bladder is important, and sometimes the only one upon which a diagnosis can be made. At operation pericholecystitis is one of the commonest associated conditions, and for this nothing but operation would be of avail.

DR. W. WAYNE BABCOCK: I would emphasize the value of local anesthesia in certain types of gall-bladder disease.

Personally, he never advises strongly against operation in any case, unless it is definitely contra-indicated, but, after explaining the possibility of failure, and that operation may eventually be required, Anderson does not hesitate in early and mild cases, and especially after first attacks, to give medical treatment a thorough trial, and has found that in many instances, excellent and permanent results have been obtained.

To which I would add that occasionally we see cases die after operation that would have lived many weeks if they had been let alone surgically. Where there are evidences of septic trouble or gangrene, operation is, of course, imperative.

DR. WILLIAM E. HUGHES: It is important to recognize the existence of gall-stones because, while they may lie quiescent through the normal life of the patient, they are there and are a possible source of trouble. Nine times out of ten in cases in which my attention has been called to "gall-stones" collected from the feces they have proved to be not gall-stones, but foreign matter.

We should realize that gall-stones represent a terminal condition. The patient may have had few symptoms for five or twenty years, but finally develops an acute condition. In such a case it would have been much better to try to prevent such an outcome by early operation. It is interesting to note what other symptoms may follow gall-bladder disease. Most surgeons have seen cases in which the most surprising results have followed operation upon the gall-bladder. Arthritis deformans sometimes disappears after a gall-bladder operation. In a patient with the tic douloureux who developed gall-bladder disease the pain of the former condition disappeared after removal of the pus and gall-stones, We know that neuritis may result from gall-bladder infection. There are also conditions in the intestinal tract and other remote conditions due to intoxication or passage of the bacteria to these parts of the body. It seems to me that within the next two or three years we are going to revise our conceptions of intestinal indigestion.

DR. ROBERT N. WILLSON: I have seen more than one case of cholangitis and also gall-stone cases of necessity treated medically when the surgeon could not be reached. In such cases the symptoms have disappeared with the emptying of the intestinal tract. In gall-stone cases I have seen more than one case carried over year after year simply because the patient absolutely refused operation.

DR. GIBBON, closing: As to the archaic conclusions of Anderson which Dr. Hare left—I would have left them, too, I think—I am sorry Dr. Hare is not here to defend them.

What Dr. Pfahler has shown us is of the greatest value and promises a great deal of help. Dr. Pfahler said that negative findings do not mean that the patient has not stones. It also does not mean that the patient has not an infected gall-bladder, which, as Dr. Babcock says, gives rise to all the trouble. I feel that the interpretation of the x-ray plate must be made by an expert as well as the x-ray picture itself. I regret that the treatment in Dr. Anderson's cases was not given. There are a lot of cases apparently cured which are not really cured.

## HARTFORD MEDICAL SOCIETY.

At a meeting of the Society, held April 6, DR. F. C. WOOD, Professor of Clinical Pathology, Columbia University and Director of Cancer Research, George Crocker Special Research Fund, read a paper, illustrated by lantern slides on the subject

### OUR KNOWLEDGE OF CANCER.

Dr. Wood gave a brief historical resumé, showing that while cancer had been recognized by the Hindus, Egyptians, and Greeks, from the earliest periods, and had been carefully studied since then, a limit had been reached for clinical investigation of the disease, and that nothing regarding the cause of cancer had been learned. About ten years ago the use of animal transplantation, first introduced by Jensen, placed in the hands of laboratory experimenters a powerful means of approach to the unsolved question, and more had been learned as to the cause of cancer in these ten years by laboratory investigations than in the preceding thirty-five centuries. Dr. Wood gave a short account of the vari-

ous discoveries which had been made by means of experiments on animals; some of these were of biological importance merely, while others had a direct application to the human race. He spoke of the question of hereditary transmission of cancer in mice, but stated that this occurred only in certain races, in which there had been an intense concentration of cancerous ancestry, and said that it would require two or three hundred years of inbreeding of cancerous human beings to duplicate the results obtained with the mice. Such a concentration could not occur under ordinary conditions in man, and it was, therefore, doubtful that heredity played an important part in the cause of cancer. He also pointed out that cancer is not contagious; that cancer can not be transmitted from animals to man; and that cancer houses and cancer districts do not indicate either contagion or hereditary transmission, but are due to accidental groupings which can be explained by the laws of probability. He illustrated the availability of animals for the study of cancer by detailing some of his own results in treating cancer in mice with radium, the effect being as unfavorable in animals with malignant tumors as it is in man. He strongly urged the wider education of the profession in the matter of the early diagnosis of cancer, preferably by the microscope, and stated that in his opinion nothing but early surgery was of any benefit in the cure of cancer.

## Book Reviews.

*Text-Book of General Pathology.* Edited by M. S. PEMBREY AND J. RITCHIE. New York: Longmans, Green and Company. London: Edward Arnold. 1913.

This book hardly lives up to its title of a text-book of general pathology. It consists of twenty chapters, written by different authors.

1. Introduction. By Ritchie and Pembrey.
2. Pathology of the Blood. By A. E. Boycott.
3. Information. By Ainley Walker.
4. Infection. By Ainley Walker.
5. Immunity. By C. H. Browning.
6. Degeneration, Necrosis and Calcification. By J. Lorrain Smith.
7. Hypertrophy and Atrophy. By J. Ritchie.
8. Tumors. By J. Ritchie.
9. Pathology of the Circulation. By A. E. Boycott.
10. The Nervous System. By F. W. Mott and S. V. Sewell.
11. Respiration. By J. S. Haldane.
12. Physiology and Pathology of Temperature. By M. S. Pembrey.
13. Pathology of Digestion. By A. F. Hertz.
14. Metabolism. By M. S. Pembrey.
15. Metabolic Disturbances Which Result from Hepatic Disease. By A. E. Garrod.
16. Anomalies of Metabolism. By A. E. Garrod.
17. Diabetes Mellitus and Some Other Changes in Carbohydrate Metabolism. By A. P. Beddard.
18. Gout. By I. Walker Hall.
19. Physiology and Pathology of the Kidney. By J. H. Ryffel.
20. Death. By J. Ritchie.

The reputations of the authors indicate the excellence of these chapters, most of which are very interestingly written. The physiological viewpoint is maintained by each author. The book contains a very few illustrations, and these few are of poor quality. The book can hardly be recommended as a student's text-book, but can be endorsed heartily for collateral reading in connection with a course in pathology or for graduates who wish to review their pathology or to get a knowledge of its recent advances.

*Pathologisch-Anatomisches Praktikum.* Für Studierende and Ärzte. Von PROFESSOR DR. MED. RICHARD OESTREICH. Urban and Schwarzenberg. 1913.

A German quiz compend in pathology, modeled after similar compends in anatomy. Possibly of use in preparing for examinations, but not where the examinations are intelligently given.

*Practical Bacteriology, Microbiology and Serum Therapy.* (Medical and Veterinary). A Text-Book for Laboratory Use. By DR. A. BESSON. Translated and adapted from the Fifth French Edition by H. J. HUTCHENS, D. S. O. pp. 892. New York: Longmans, Green & Co. 1913.

This is the most complete reference book of its size in bacteriology. It is thoroughly up-to-date on most subjects, and contains directions and formulae for practically every known bacteriological procedure. The principal bacteria are concisely and well described. The book also includes a section on spirochaetes and protozoa. pathogenic for man and animals. The inclusion of Veterinary Bacteriology enhances the value of the book materially for the laboratory worker. The absence of theoretical discussions perhaps detracts from its value as a student's text-book. It is a book that has proved very valuable to laboratory workers, as a handy reference volume, and is the best book of this sort, of which the reviewer has knowledge. It makes an admirable text-book for advanced students. The one serious criticism is the failure to give the references to the different authors quoted.

THE BOSTON

# Medical and Surgical Journal

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## THE ADVANTAGES OF THE DE RIBES BAG IN OBSTETRICS.

IT may be asserted with truth that with the advent of Barnes' dilators a new era was inaugurated in obstetrical practice, and it may also be truthfully stated that even now the many practical benefits to be derived from the method of procedure which this device exemplified are not at all adequately appreciated by the great mass of practitioners. The artificial dilatation of the os uteri, in imitation of its natural opening in labor, was first practised by Klüg, by means of the sponge tent; but this method had the disadvantage of occupying an indefinite time, the irritation produced was often painful and annoying, and, worse still, the tent sometimes became a source of infection. The Barnes rubber dilators therefore constituted a very marked advance. These, however, were not without their disadvantages, and from time to time various improvements have been introduced in the means for the production of dilatation, until we now have at our command one superior in every way to its predecessors. This is the hydrostatic dilator known as the modified Champetier de Ribes bag. For those not familiar with it, it may be stated that the de Ribes bags, of five sizes, are conical in shape and made of canvas (and hence inelastic), covered with rubber, and the stem, through which normal salt solution or sterile water is injected into the bag, is very strongly attached to the apex; making it possible to make moderate traction if desired.

The largest field of application for the bags is naturally in the induction of labor, and in 1912 Dr. George L. Brodhead, professor of obstetrics in the New York Post-Graduate Medical School, who is an enthusiastic advocate of their use, published in the *American Journal of Obstetrics* a series of 139 cases in which they were employed for this purpose, and in which the results were for the most part extremely gratifying. In 90% of these, labor was induced by the use of not more than two bags, while in nearly 70% one bag was sufficient. Anesthesia for bag introduction was usually unnecessary, as shown by the fact that an anesthetic was used in only 14% of private cases and 16.6% of all cases, including hospital cases, where it was deemed advisable for clinical purposes. The two chief causes for which labor was induced were contracted pelvis (41 cases) and toxemia, including albuminuria, nephritis and eclampsia (27 cases). In seven of the cases a change in the fetal position occurred after bag introduction, and while except in one instance the change in presentation made no difference in the outcome, the possibility of this accident should be kept constantly in mind when one is using the bag method.

At a recent meeting of the Medical Association of the Greater City of New York (before which also his first paper was presented), Dr. Brodhead read a second paper on the use of the modified de Ribes bag in obstetrics, and in this he expressed the conviction that in this device we were in possession of such a valuable aid in obstetric work that we might well consider whether more extensive application could not be made of it. Although it has now been in use for a considerable number of years, it is a matter of surprise to him that greater advantage has not been taken by the profession at large of a method at once so simple and of such great value. In addition to the well-known indications for the interruption of pregnancy, he has found the bag of great service in patients where the child is large and the pelvis normal or slightly undersized. Again, he believes that in a patient at term, especially a primipara, if pains have not begun within twenty-four hours after the premature rupture of the membranes, labor should be induced with the bag. Furthermore, in primiparae especially, the child is sometimes found to be too large to pass through the pelvis, and in his opinion many children now lost might be saved by the interruption of preg-

nancy. In the treatment of antepartum eclampsia he advises that medical treatment (in which he lays stress on the value of venesection in selected cases and of veratrum more generally) should be carried out as vigorously as possible, but also that pregnancy should be terminated by the induction of labor. Inasmuch as pregnancy is the direct cause of the eclampsia, he is convinced that the uterus should be emptied within a reasonable time, not by a radical procedure, such as vaginal or abdominal section, but by the slower and more physiological method. For this purpose he combines the use of the bougie, or rectal tube, with that of the bag. In this class of cases, as so many others, the latter affords an invaluable aid in the treatment, but the condition is so urgent that its employment should be supplemented by the introduction of the rectal tube, thus making the induction of labor more certain. Whatever result the ultimate statistics of the treatment by section may show, he believes that in the hands of the general practitioner the induction of labor, combined with vigorous medical treatment, will continue to give the best results. When eclampsia develops in the early part of the first stage of labor, the method of choice is the use of the bag for the dilatation of the cervix, and in the latter part of the first stage, the application of forceps, podalic version, or, when the child is dead, craniotomy. Vaginal section is indicated, if at all, in those cases in which the cervix is very rigid and where the bag and bougie have failed, after a reasonable time, to effect softening and dilatation. In a primipara at or near term, with a small, rigid vagina and a contracted pelvis, abdominal Cesarian section would be the operation of choice.

In a considerable number of conditions there is, in Dr. Brodhead's opinion, no method of procedure comparable in results to the use of the bag. For marginal placenta previa it offers an almost ideal resource. Here the problem is how to secure full dilatation of the cervix with the least violence and loss of blood, while in no way injuring the child. One of the larger sizes should be employed, and after the cervix has been well dilated version can be performed with much greater ease and with better results for both mother and child. In central placenta previa at term, and in the marginal variety at term in primiparae, abdominal Cesarian section in the hands of competent operators, with proper surroundings, will undoubtedly give the best results; but, on the other hand, Cesarian section as a routine procedure would give a much larger mortality than the conservative treatment with the bag and podalic version. So-called accidental hemorrhage often demands the interruption of pregnancy, and here, again, the bag may offer a solution of the problem. In this instance, however, the source of bleeding is too high up to be influenced by it; so that where the hemorrhage is very profuse, or continues moderately with the bag in place, some other method of procedure is indicated, the choice lying between manual dilatation, followed by forceps or version, and vaginal or abdominal section. Finally, the bag is useful in cases of tedious labor, especially in primiparae with breech presentation; and in prolonged first stage where the patient, after many hours of suffering, has made but little progress, its introduction will frequently cause the pains to become more effective. In breech cases the breech of the child is a very poor dilator, and when the labor is proceeding very slowly there is no better method of expediting matters than by means of the bag.

## MEDICAL ASPECTS OF THE SITUATION IN MEXICO.

WITHOUT actual declaration of war there has already been American bloodshed in Mexico. Vera Cruz was seized on April 22 by United States marines in conjunction with the naval fleet, and is now occupied by American troops. On the following day, the medical department of the military government began clearing the wreckage of the local Naval Academy, which was destroyed by shells during the bombardment. Much of the clothing and other contents of the building have been transferred to the Charity Hospital, where the wounded will be cared for.

Provisions for nursing in field and base hospitals are being made by the American Red Cross, which on April 23 issued the following statement:—

"In view of the Mexican situation and the duties and responsibilities that may devolve upon the American Red Cross, the people of the United States are hereby informed that the Red Cross is prepared for whatever service the Gov-

ernment may require of it as the society created by congress to furnish volunteer aid to the sick and wounded of armies in time of war and to serve as a medium of communication between the people of the United States and their army and navy.

"Attention is called to the fact that under the provisions of the treaty of Geneva, by presidential proclamation any other society desiring to render similar assistance can do so only through the American National Red Cross. Immediate preparations for fulfilling these duties are imperative. The war relief board meets April 30 to adopt a definite plan of action. This will involve heavy expenditures and the Red Cross relies upon the public for generous contributions to enable it to meet these demands. Contributions may be sent to local or state treasurers or to the Red Cross, Washington, D. C."

As yet there has been no outbreak of disease among American troops in Mexico. Probably typhus is their greatest risk, since it is endemic over the Mexican plateau, where it is locally known as *tabardillo*. There is a great deal of typhus in Mexico City, but none along the seacoast. There the disease most to be dreaded is yellow fever.

At Vera Cruz every precaution is being taken against the outbreak of any infection. One case of smallpox was discovered among refugees in the city, and extensive vaccination of nonimmunes has been instituted. Over a thousand American refugees have arrived at Galveston, Tex., and report from that city on April 27 states that three cases of small-pox have occurred among those aboard the battleship *Connecticut*. Careful quarantine has been established.

At the present writing, the likelihood of mediation makes further hostilities seem improbable. In the event of their occurring, however, every preparation has been made by the army medical corps to establish hospitals in the rear of troops advancing inland. The plan of distribution of these hospitals will be as follows:—

"Each division, which is made up of four brigades, will have four field hospitals. In each hospital are 108 beds. In the rear of the field hospitals will be an evacuation hospital, which will hold twice as many beds as a field hospital. Behind the evacuation hospital, fifty or one hundred miles—it depends on the position—will be the base hospital. To each field hospital are five surgeons, to each ambulance corps three surgeons, to each regiment four medical officers and twenty-two members of a hospital corps, and to each division a chief surgeon and a chief sanitary inspector."

On the part of the Mexicans there is said to be considerable difference in degree of medical efficiency. The medical department of General Villa's constitutionalist army is in command of Dr. Andres Villareial, a graduate of Johns Hopkins. It has a well equipped hospital train, capable of caring for 1400 patients for 40 days, and a modern field hospital with an abundance of trained nurses. The medical department of General Huerta's federal army, on the contrary is poorly officered, ill-equipped, and inefficient.

In the event of war, the American loss from disease should be proportionally the lowest that has ever been observed. In the first Mexican War, of 1848, the total American loss from disease was 6408, while the loss from wounds received in battle was about 5000.

## MEDICAL LEGISLATION. REORGANIZATION OF THE STATE BOARD OF HEALTH.

GOVERNOR WALSH, with the assistance of men eminent in public health work both in the state and in the nation, has drawn up a bill to create a state department of health and to modify the existing health laws in Massachusetts. This bill conforms closely to the suggestions made in the Governor's inaugural message and also to the general principles of certain recommendations made previously in these columns. The Governor's bill has the enthusiastic endorsement of a considerable body of medical men with whom he has been in consultation.

The bill calls for a single, highly paid commissioner of health with an advisory unpaid public health council. The Governor is wise enough to appreciate that mere organization, though important, is but the vehicle for the introduction and execution of health measures. Consequently his bill gives somewhat wider and better defined powers to the health department than the state board of health has enjoyed in the past.

Since the time has apparently come for a reorganization of the state health department, it is very gratifying that Governor Walsh has risen to the opportunity of attempting to create as good a department as is possible under the circumstances. The broad minded manner in which he has obtained the advice of eminent ex-

perts is particularly commendable. This bill, now in somewhat rough form, will be discussed in detail in subsequent issues of the JOURNAL. From present indications the bill should receive the hearty support of the medical profession.

## MEDICAL NOTES.

ERADICATION OF UNCINARIASIS IN CENTRAL AND SOUTH AMERICA.—The Rockefeller Commission for the Eradication of Hookworm Disease, it is announced, is to extend its field of activity into Central and South America; and Dr. Joseph H. White, of the United States Public Health Service, is to superintend this work.

PNEUMONIC PLAGUE IN TOKYO.—Report from Tokyo, Japan, on April 24, states that pneumonic plague is at present epidemic in that city, and that many deaths from it have occurred.

BUBONIC PLAGUE IN CUBA.—Two more cases of bubonic plague were reported in Cuba on April 22, one in Havana, the other at Artemisa, a small neighboring town. This makes a total of 12 cases since the beginning of the outbreak several weeks ago.

INTERNATIONAL CONGRESS ON CHILD WELFARE.—The third International Congress on Child Welfare was held from April 23 to 25, inclusive, at Washington, D. C. At the opening session, Miss Julia C. Lathrop described the work of the children's bureau of the United States department of labor, and Mrs. Frederick Schoff, of Philadelphia, reported the work of the national congress of mothers and parent-teachers, of which she was president. On April 24, Professor E. A. Kirkpatrick, of Fitchburg, Mass., read a paper on "Training Children in Financial Responsibility"; and Dr. Helen C. Putnam, of Providence, R. I., on "Twentieth Century Motherhood." Mr. Nathan Straus of New York described the work of the milk stations in that city, whose infant mortality under five years has fallen from 96.5 per 1000 in 1891 to 37.3 per 1000 in 1913.

### BOSTON AND NEW ENGLAND.

MEASLES IN NEWPORT BARRACKS.—Report from Newport, R. I., on April 26 states that 5 cases of measles have recently occurred among men in the naval training station barracks at that port.

A CENTENARIAN.—Patrick Welch, who died at Brighton, Mass., on April 23, is said to have been born early in 1814 in Ireland. He migrated as a boy to Montreal, and thence came to Brighton in 1842. He is survived by five of his eleven children. He attributed his protracted longevity and good health to his lifelong habit of total abstinence from tobacco and alcoholic liquors.

FITCHBURG BOARD OF HEALTH.—The recently published twenty-fourth annual report of the board of health of the city of Fitchburg, Mass., records the activities of that body for the calendar year 1913. It contains also the reports of the agent of the board, the bacteriologist, the school physicians, the school nurse, the inspectors of milk, plumbing, meats, provisions, and slaughtering. The total death-rate of the city was only 13.38 per 1000 inhabitants, and the infant death-rate, under one year, was only 103.3 per 1000 births.

VISIT OF FOREIGN SURGEONS TO BOSTON.—On Monday and Tuesday of last week, April 27 and 28, a number of foreign members of the International Surgical Association, whose fourth triennial convention has recently been held in New York, visited Boston as guests of the local members of the American Surgical Association. Operations, demonstrations and receptions were held at the various hospitals, at the Harvard Medical School, and at Harvard College, Cambridge. On Monday evening a dinner was given at the Copley-Plaza Hotel.

A MEDICAL MEMORIAL TO DICKENS.—On April 29 the All Around Dickens Club, of Boston, celebrated its twentieth anniversary by dedicating a free bed in memory of Charles Dickens at the new Children's Hospital.

HOSPITAL BEQUESTS.—The will of the late Eliza E. Hobbs, of Waltham, Mass., which was filed on April 25 at the Middlesex registry of probate, contains bequests of $5000 to the Waltham Hospital, $1000 each to the Waltham Baby Hospital and the Waltham Training School for Nurses, and $500 to the Waltham District Nurses' Association.

The will of the late Benjamin F. Keith, of Boston, which was filed on April 25, in the Norfolk Probate Court at Dedham, Mass., contains a bequest of $5000 to the Boston Floating Hospital.

Cases of infectious diseases reported to the Boston Board of Health for the week ending April 28, 1914: Diphtheria, 52; scarlatina, 101, of which 16 were non-residents; typhoid fever, 3; measles, 89, of which 2 were non-residents; tuberculosis, 51.

The death-rate of the reported deaths for the week was 17.22.

NEW YORK.

Pure Food Investigation.—At a meeting of the recently organized food and drugs department of the National Civic Federation, held on April 26, an investigation, embracing the entire country, into the methods of handling products as regards pure food principles, cleanliness, right labeling, and honest advertising, was decided upon, in order to determine the lines on which the federation can work to the best advantage in securing pure foods and drugs for the American people. The chairman of the committee which has charge of the proposed investigation is Vincent Astor, and among the members are Dr. C. A. Alsberg, chief of the bureau of chemistry, United States Department of Agriculture; Dr. S. S. Goldwater, commissioner of health, New York City; and J. H. Wallis, president of the Association of American Dairy, Food and Drug Officials. The plan of operations includes the sending out of a list of questions to federal and state food, drug and dairy commissioners, state and municipal health officials, professors of chemistry in universities and colleges, agricultural chemists, and representative dealers in foods and drugs throughout the country.

Election of Dr. Park.—On April 27 Dr. William Hallock Park, director of the research laboratories of the New York City Health Department, and a pathologist and bacteriologist of international reputation, was unanimously elected by the Council of New York University dean of the University and Bellevue Hospital Medical College, to succeed the late Dr. Egbert Le Fevre. For a number of years Dr. Park has been professor of bacteriology and hygiene in the college, and he was recommended for the position of dean by Prof. William H. Welch of Johns Hopkins University, Dr. Simon Flexner of the Rockefeller Institute, and other high authorities.

Death from Typhus Fever.—On April 27 the first death occurred among the typhus fever patients at Swinburne Island, Quarantine Station. The patient was a Greek who had embarked on the steamer *Madonna* at Naples. Since January 7, 19 typhus patients have been received at Quarantine, and all the cases are stated to have occurred among soldiers who had been in the Balkan wars.

Honor for Dr. Flexner.—Dr. Simon Flexner, director of the Rockefeller Institute, has been notified by the French ambassador at Washington that the Cross of Chevalier of the Legion of Honor has been conferred upon him by President Poincaré. This honor has been bestowed, it is stated, in recognition of the services rendered to medical science by Dr. Flexner through his own discoveries and his admirable administration of the institute. In the award special mention is made of the assistance given to France, at the time of the epidemic of cerebrospinal meningitis there, by the sending to the Pasteur Institute in Paris of a supply of the new anti-meningitis serum, which was successfully employed in combating the disease.

Award of Seaman Medal.—On April 28 the Louis Livingston Seaman medal of the American Museum of Safety was presented to Surgeon General William C. Gorgas, in recognition of his great sanitary work in the Panama Canal Zone. The speech of presentation was made by Prof. F. H. Hutton of Columbia University, and other speakers on the occasion were Arthur Williams, president of the museum, Dr. N. E. Ditman, and Dr. Seaman, the donor of the medal, as well as Gen. Gorgas himself.

Appointment of Dr. Janeway.—It is announced that Dr. Theodore C. Janeway, Bard professor of the practice of medicine in Columbia University, has accepted the professorship of medicine in Johns Hopkins University, Baltimore, recently offered him, under the full time basis made possible by the gift to the University of $1,500,000 by the General Education Board. It is stated that Dr. Llewellys F. Barker, who succeeded Sir William Osler in the chair of

medicine, was unable to remain in the position under the new conditions, but will continue his service at the Johns Hopkins Hospital.

DEATH-RATE FOR WEEK ENDING APRIL 25, 1914.—There were 1637 deaths and a death-rate of 15.30 per 1000 of the population reported during the past week as against 1677 deaths and a rate of 16.28 for the corresponding week in 1913, a decrease in the absolute number of deaths of 40 and in the rate of .98 of a point, a relative decrease of 105 deaths. The following causes showed material deductions: Measles, diphtheria and croup, whooping cough, diarrheal diseases under five years of age, acute bronchitis, lobar and broncho-pneumonia, pulmonary tuberculosis, Bright's disease and nephritis. The causes showing an increased mortality were scarlet fever (the mortality from this cause being double that of the corresponding week of last year), forms of tuberculosis other than pulmonary, diseases of the nervous system and violence. Viewed from the point of age grouping, there were 28 less deaths of infants under one year, 17 less between one and five years of age, 25 less between five and sixty-five years of age, and 30 more over the age of 65. The borough of Richmond showed the highest mortality, due in great measure to the unfavorable distribution of the age grouping of the population and the presence of several large institutions, the inmates of which are chiefly non-residents. The second highest mortality was that of the borough of Manhattan, then followed borough of Brooklyn, borough of Queens and the borough of The Bronx in the order mentioned. The death-rate for the first 17 weeks of this year was 15.46 per 1000 of the population as against a rate of 15.68 during the corresponding week in 1913, a decrease of .22 of a point.

A GOOD VETO.—Report from Albany on April 25 announces that Governor Glynn has vetoed the bill, recently passed by the state legislature, permitting unlicensed practise by Christian Scientists, chiropractors, and naturopathists. In his veto message the Governor said in part:—

"This bill is advocated by Christian Scientists. If it simply allowed Christian Science healers to practise among the followers of Christian Science, there might not be serious objection to it; but it opens the gates to all kinds of medical pretenders, who as a matter of fact 'administer to or treat the sick or suffering without the use of any drug or material remedy' and who, if this bill were approved, would swarm across our borders and pretend to practise medicine upon our citizens."

RESEARCH WORK IN GENETICS.—At the meeting of the Eugenic Section of the American Breeders' Association at Palmer, Mass., in 1911, a research committee was appointed "to study and to report on the best practical means of cutting off the defective germ-plasm in the American population. This committee has recently issued from Cold Spring Harbor, Long Island, the headquarters of the Eugenics Record Office, two bulletins, one (No. 10A) on "the scope of the committee's work," and one (No. 10B) on "the legal, legislative and administrative aspects of sterilization." The committee is still working and no doubt other bulletins will follow. Meantime the organization has changed its name to the American Genetic Association.

NEW YORK STATE MEDICAL SOCIETY.—At the 108th annual meeting of the Medical Society of the State of New York, held in New York Apr. 28-30, the following officers were elected: President, Dr. Grover Dende of Buffalo; first vice-president, Dr. Myron B. Palmer of Rochester; second vice-president, Dr. Samuel W. S. Toms of Nyack; third vice-president, Dr. Robert M. Elliott of Willard. Dr. W. R. Townsend of New York was reëlected secretary, and Dr Alexander Lambert of New York, treasurer. The annual dinner of the society was given at the Hotel Astor on April 29, and was attended by more than eight hundred physicians. The toastmaster was the retiring president, Dr. William F. Campbell of Brooklyn, and among the speakers was Dr. Wilfred Grenfell of Labrador.

## Current Literature

MEDICAL RECORD.

APRIL 18, 1914.

1. SCHROEDER, H. H. *Syphilis in Relation to Life Insurance.*
2. MEYER, A. *Present Status of Typhoid Immunization in the Hospitals and Training Schools of New York.*
3. NEUSTAEDTER, M. *A Case of Facial Hemiatrophy.*
4. PALEFSKI, I. O. *Visualization of the Upper Intestinal Tract by Means of Roentgen Rays in Conjunction with the Use of the Duodenal Tube.*
5. AUSTIN, C. K. *On the Iso-Serum Treatment of the Incoercible Vomiting of Pregnancy.*

6. Benedict, A. L. *Cancer Statistics.*
7. Strauch, A. *Epidemic Icterus.*

New York Medical Journal.

April 18, 1914.

1. Syms, P. *Operative and Postoperative Treatment of Appendicitis.*
2. Kakels, M. S. *The Operative Mortality in Appendicitis.*
3. Ring, G. O. *The Association of Systemic Disease with Metastatic Ophthalmia.*
4. Palefski, I. O. *Pursestringing of the Small Intestines into a Distance of Fifty Centimeters.*
5. Smukler, M. E. *Cardiospasm, with Dilatation of the Esophagus.*
6. Smith, H. *Lymphosarcoma.*
7. Macwhinnie, A. M. *Two of the Present Day Fads.*
8. Kenerson, V. *Marked Improvement in Tabes.*
9. Todd, J. B. *Ventilation.*
10. Mayo, W. J. *Chronic Ulcers of the Duodenum.*

The Journal of the American Medical Association.

April 18, 1914.

1. *Harris, M. L. *Constrictions of the Duodenum Due to Abnormal Folds of the Anterior Mesogastrium.*
2. Dyas, F. G. *The Treatment of Acute Osteomyelitis of the Long Bones by Means of the Dental Engine and a Large Burr. Preliminary Report.*
3. *Hare, H. A. *Three Cases of Wiring with Electrolysis for Aortic Aneurysm. One Heretofore in Part Reported.*
4. Ulrich, H. L. *Some Notes on Hay-Fever.*
5. *Macleod, J. J. R. *Recent Work on the Physiologic Pathology of Glycosuria.*
6. Howell, A. A. *Possibilities in the Use of the Auscultatory Method of Determining Blood-Pressure in Pneumonia.*
7. Craig, C. F. *Variations in the Strength of the Wassermann Reaction in Untreated Syphilitic Infections.*
8. *Kilgore, A. R. *The Luetin Cutaneous Reaction for Syphilis.*
9. Nuzum, F. *Retro-Aortic Left Renal Veins.*
10. Craig, H. K. *A New Method of Preparing Museum Specimens.*
11. Goodman, E. H. *Hemothorax Caused by Rupture of a Dissecting Aneurysm. Recovery.*
12. *Eising, E. H. *The Disappearance of Sugar in Diabetics after Certain Pelvic Operations.*
13. Lavenson, R. S. *The Responsibility for the Failure to Diagnose Tuberculosis in Its Early Stages.*
14. Dodd, V. A. *The Protection of Granulations. A New Dressing Material.*
15. Fenger, F. *Distinction Between the Corpus Luteum of Ovulation and the True Corpus Luteum of Pregnancy. Preliminary Report.*
16. McCord, C. P. *The Frequency of Pregnancy in Slaughter-House Cattle in Relation to the Supply of Corpus Luteum.*
17. Smith, L. D. *A Simplification of the Gram Stain.*

1. Harris describes six very distinct cases in which a fold or band passed from the gall bladder down over and constricting the second part of the duodenum and produced a definite set of symptoms resembling those of duodenal ulcer. These cases were all permanently relieved by division of this band at operation. Harris describes this band as the abnormal remains of the caudal edge of the ventral mesogastrium, or by some called the great omentum hepatocolicum.

2. Dyas' use of a large dental burr in drilling out diseased bone in osteomyelitis seems like a very rational procedure and a decided advance in technic, as the operator can work more rapidly and at the same time with less danger of damaging normal bone and leaves no rough spicules or ragged edges.

3. Hare, after having operated on twenty-five cases of aneurysm by wiring and electrolysis, claims that this is the only method sure to give relief in aortic cases. He does not consider it a dangerous operation. He uses a yellow gold wire.

5. Macleod's article is not suited for abstracting, but is a very thorough review of experimental work on glycosuria.

7. Craig finds marked variations in the strength of the Wassermann reaction from day to day in untreated syphilitic cases and believes therefore justly that a single negative or doubtful Wassermann reaction is of no value in excluding syphilis. He goes into some detail to explain the reasons for this variation. The paper is a suggestive one.

8. Kilgore found the luetin test of practical value in a few cases of late syphilis (4 out of 36), in which it was positive when the Wassermann was negative.

12. Eising finds evidence that prostatectomy and hysterectomy in diabetes of long duration is occasionally followed by subsidence or total disappearance of the sugar output. No plausible explanation is at hand. [E. H. R.]

The Lancet.

April 4, 1914.

1. Oliver, T. *Medico-Social Problems from an Insurance Point of View.*
2. *Whitehouse, H. B. *Hunterian Lecture on the Physiology and Pathology of Uterine Hemorrhage. Concluded.*
3. *Crofton, W. M. *Some Causes of Failure of Vaccine Therapy.*
4. *Davies, H. M. *The Operative Treatment of Pulmonary Tuberculosis.*
5. *Jordan, A. C. *Some Points in the Diagnosis of Pulmonary Tuberculosis by the X-rays.*
6. Cooper, G. *A Case of Thoracic Aneurysm of Unusual Size.*
7. Keiller, D. W. *Extrathoracic Aneurysm of the Transverse Arch of the Aorta.*

2. In this second Hunterian Lecture, Whitehouse discusses pathological uterine hemorrhage, taking up the factors involved in excessive bleeding, the relation of the endometrium to this, and the importance of investigating the menstrual discharge. He then takes up hemorrhage at puberty and at the menopause, and then considers hemorrhage in relation with organic disease of the internal sexual organs and the treatment of such conditions.

3. Among the causes for the failure of vaccine therapy, Crofton mentions (1) failure of patient to react (2) failure to diagnose the infecting organisms, (3) incomplete immunization, (4) failure to give the doses at the proper intervals.

4. This is a very brief discussion of artificial pneumothorax in pulmonary tuberculosis, with a mention of other more radical measures.

5. Jordan, in his usual interesting, but somewhat over-enthusiastic view, urges the x-ray as the only means of making the true early diagnosis of phthisis, and argues in favor of this "peribronchial phthisis." Early diagnosis has been kept back for years, he states, because it has been the custom to use and depend on the stethoscope and to look at the apices for the initial lesion. (His remarks applied to children are of interest and value; in adults they are interesting, if true.—J. B. H.). [J. B. H.]

BRITISH MEDICAL JOURNAL.

APRIL 4, 1914.

1. RUSSELL, R. H. *Lister: The Laboratory and the Bedside.*
2. *SIMSON, H. J. F., AND BERNSTEIN, J. M. *Remarks on Infection by B. Coli in the Puerperium and on the Infective Conditions of Pregnancy.*
3. CASTELLANI, A., AND PHILIP, M. *Plague in Ceylon.*
4. KISCH, H. A. *An Instrument for the Detection of Slight Degrees of Nasal Obstruction.*
5. RYLAND, A. *A Case of Temporo-Sphenoidal Abscess in the Course of Chronic Otitis Media.*
6. TIBBLES, S. G. *Two Cases of Ocular Disease Associated with Pyorrhea Alveolaris.*
7. *SHUFFLEBOTHAM. *The Milroy Lectures on the Hygienic Aspect of the Coal-mining Industry in the United Kingdom. Lecture V. Beat Hand, Knee, Elbow and Buttock.*

2. The writers discuss the symptoms and diagnosis of puerperal infection with B. coli, and the prognosis and treatment of this condition. They are strong advocates of vaccine treatment, the details of which, with illustrative cases, they describe.

7. In the fifth Milroy Lecture, the writer describes "beat hand, knee, elbow and buttock." "Beat hand" is an acute inflammation of the subcutaneous tissue of the palmar surface of the hand and fingers, without history of injury, infection taking place through a slight abrasion often quite unnoticed. The course depends on its treatment, neglected cases often leading to a general septic condition of the hand. On the average 700 to 800 cases are reported each year. The treatment is that of any acute infection of a mild nature. Beat elbow, knee and buttock are similar conditions. He continues to discuss tenosynovitis of the wrist, and miners' itch or rash. This last consists of an erythematous or pustular eruption over areas chiefly exposed to coal dust and other sources of irritation. It occurs in certain pits or seams far more frequently than in others. In concluding his lecture, Shufflebotham discusses the Workmen's Compensation Act and further legislation needed to protect the miners' health. [J. B. H.]

BERLINER KLINISCHE WOCHENSCHRIFT.

No. 6. FEBRUARY 9, 1914.

1. *VULPIUS, O. *A New Bone Operation for Paralysis of the Forearm.*
2. SÖDERBERGH, G. *Some Remarks on the Localization of Tumors of the Spinal Cord.*
3. CEASER, E. *An Epidemic of Poliomyelitis in the Spring of 1912 in Lindaas, Norway.*
4. FÜHNER, H. *The Hypophysis and Its Active Elements.*
5. *GEPPERT, F., AND SIEGFRIED, K. *Mesenteric Thrombosis in a Case of Latent Phlebosclerosis of the Portal Vein.*
6. HALBERSTAEDTER, L. *Experimental Work on the Effect of Radium on Trypanosomes.*
7. PIORKOWSKI. *Experiences with the Serum Diagnosis of Cancer.*
8. PROSKAUER, A. *Chromophile ("Chromatophore") Cells in the Nasal Mucous Membrane.*
9. ROTHFELD, J. *The "Oto-Ophthalmotrop," a New Instrument.*
10. LAZARUS, P. *Present Status and Future Aims of Radium—and Mesothorium—Therapy.*

1. In order to overcome the pronation which ordinarily results from both flaccid and spastic paralysis of the forearm, and thus to enable the patient to perform acts otherwise impossible, such as putting a fork or spoon into the mouth, Vulpius has devised two operations for fixing the bones in a position midway between pronation and supination. The first consists in turning a bone flap across from the radius and suturing it firmly to an area on the ulna which has been denuded of periosteum, following which procedure the arm is held fixed for ten weeks. The other method is to use a graft from the tibia, the principle of the operation being the same as in the first-mentioned. The author has been successful in both methods, and the patients have been able to do much more with the arm.

5. This is an unusual and interesting case,—a man of 40, in presumably perfect health, strong and rugged, was seized with violent cramps in the upper abdomen, with no temperature, no spasm or tenderness, no palpable tumor, no mass of any sort, and no vomiting till just before death, which occurred in collapse three days after the onset. Perforating ulcer and obstruction were ruled out, and though it seemed in some respects like tabes, the history was negative for lues. The whole case was very obscure. He was not operated on because the indications were not at any time clear, and when he began to go into collapse it was too late. Autopsy revealed gangrene of about one meter at the upper end of the jejunum, with fresh mesenteric thromboses in the radicles of the superior mesenteric vessels supplying this part of the gut, and an old chronic proliferative pylephlebitis. This condition has been reported several times before, and its etiology is obscure. In this case the mesenteric thrombosis was directly due to the process in the portal vein. [R. H. M.]

No. 7. FEBRUARY 16, 1914.

1. KOCH, J. *Investigations on the Localization of Bacteria and the Changes in Bone and Bone-marrow in Infectious Diseases in Childhood. (To be continued.)*
2. *SCHÜLLER, H. *The Effect of Radium on Tumors of the Spleen.*
3. NEUMANN, W. *The Cure of Complete Cleft Palate.*
4. LEHMANN, R. *Acute Otitis Media with Secondary Meningitis and Paralysis of the Abducens Nerve.*
5. BRAUN, H. *Trypanosome Infections of Animals in German East Africa.*
6. TEICHMANN, E. *Experiments in the Transmission of Trypanosomes by the Glossina (Tsetse Fly).*
7. RABINOWITSCH, M. *The Etiological Factor of Smallpox.*
8. POSSEK, R. *"Embarin" as a Therapeutic Agent in Ophthalmology.*
9. WECHSELMANN, W. *The Study of the Importance of Having the Proper Aqueous Vehicle for Salvarsan.*
10. DAVIDSOHN, F. *Technic of Radium Treatment of Deep Tissues.*
11. THOMSEN, O. *Experiments in Poliomyelitis.*

2. Schüller reports 4 cases of splenic tumor—2 of myelogenous leukemia, 1 of Banti's disease, and 1 of "aleukemic adenomatosis,"—treated by radium, mesothorium and rademanit, with distinct improvement in every case. The splenic tumor not only decreased in size, but the blood picture was more nearly normal and the general symptoms were alleviated. In the case of Banti's disease splenectomy was done following marked shrinkage of the spleen after the radium treatment. Besides claiming for radium the qualities above mentioned, the author states that it is active in cases where the Roentgen ray has failed; and that it causes so much decrease in the size of the spleen that it is a valuable measure to precede splenectomy. [R. H. M.]

WIENER KLINISCHE WOCHENSCHRIFT.

No. 2. JANUARY 8, 1914.

1. ELIAS, H. *Irritability of Nerves in Relation to Acids.*
2. *KROISS. *Conservative Operation for Intermittent Hydronephrosis.*
3. v. MASSARI AND KRONENFELS, G. *Surgical Experiences from the Two Balkan Wars.*
4. RUPPERT, L. *Cranial Heteroplastic Surgery with Celluloid; a Result of Twenty Years' Duration.*
5. MOCZUISKI, J. *Clinical Observations on the Inhalation of Tincture Strophanthus in Cardiac Insufficiency.*

2. The author states that the functional capacity of injured kidney tissue is usually very much underestimated and therefore leads to nephrectomy in cases where a conservative operation might restore the function of the organ. This is true especially in cases of intermittent hydronephrosis and pyelonephrosis, in which an operation establishing free drainage removes the pathological condition and restores normal function of the organ. The technic is difficult, but not impossible. He cites a number of operated cases with restored function, and no untoward secondary complications. Radical nephrectomy should be undertaken in his opinion only after an attempt and failure of the conservative, or in cases where the kidney parenchyma is so far destroyed as to make it useless. [F. S. K.]

No. 3. JANUARY 15, 1914.

1 GOLDSCHMIDT, W., AND PHILIPOWITZ, N. *The Bassini Operation.*
2. *STOLPER, S. *Atropin Treatment of Dysmenorrhea.*
3. ENGLEMANN, G. *The Relation Between Left Scoliosis in Infants and the Position in Which They are Carried.*
4. ETTINGER, W. *Three Cases of Malaria with Unusually Severe Symptoms.*
5. FRUHWALD, V. *Two Cases of Perichondritis of the Thyroid Cartilage.*

2. The author explains the failure of atropin treatment in certain cases of dysmenorrhea by their etiology. He distinguishes two groups of dysmenorrhea, those that show definite vagotonic symptoms, in which the blood pressure is normal or nearly so; those that show no vagotonic symptoms, but rather circulatory disturbances, with an increase in blood pressure. In the first group atropin is of use; it fails in the second. These must be treated according to the underlying cause. [F. S. K.]

## Obituary.

### CHARLES PICKERING PUTNAM, M.D.

DR. CHARLES PICKERING PUTNAM, who died on April 23 last in his seventieth year, was born in Boston September 15, 1844. He was the son of Charles Gideon Putnam, M.D., and Elizabeth Cabot Jackson, both of Boston, and grandson of Dr. James Jackson. He graduated from Harvard College in 1865 and from the Harvard Medical School in 1869; continued his medical studies for a time in Germany, and began the practice of his profession in Boston in 1871. Since that time he had carried on a general practice, though for many years he made a specialty of pediatrics and did some excellent pioneer work in orthopedics. He was a lecturer at the Harvard Medical School on diseases of children from 1873-75 and a clinical instructor on that subject 1875-79. He served the Boston Dispensary as district physician from 1871-1873 and as orthopedic surgeon 1873-76. In 1898 he was elected president of the American Pediatric Society.

Dr. Putnam had been since the beginning of his practice of medicine a leader in charitable and social work,—almost from the beginning the most important leader of such work in Boston, the first to take hold and the last to let go of each new and important enterprise.

Dr. Putnam was one of the founders, in 1873, of the little-known but extremely important Boston Society for the Relief of Destitute Mothers and Infants, which was a pioneer in establishing the policy of keeping mother and child together, and was president of the society from 1904 until his death. In 1875 he became physician to the Massachusetts Infant Asylum, and from 1898 to 1910 he was also president of the board of trustees. The ordinary death-rate in such institutions was at that time something over ninety per cent. a year. The Massachusetts Infant Asylum had already brought the rate down to less than a quarter of that figure when Dr. Putnam became connected with it, and he by his skill and devotion again reduced it by two-thirds or more. He was one of those who in 1879 took part in the movement for establishing the Associated Charities, the second charity organization society in this country; and he was always one of the sustaining members of that society in the real, not the conventional, sense, working in many capacities, as president of a conference, as director, as chairman of many committees, including the present important one on inebriety, and, since 1907, as president.

From 1892 to 1897 Dr. Putnam took a leading part in the very important movement for the reorganization of the Boston Institutions for the care of prisoners, of the poor, and of poor, neglected, and delinquent children, being on the special committee appointed by Mayor Matthews in 1892, chairman of the board of visitors of 1893-94, chairman of the standing committee on pauper institutions of the advisory board appointed by Mayor Quincy in 1896, a steady fighter for the reorganization bill of 1897. When the new system of separate unpaid boards of trustees was established he was appointed a member of the Board of Children's Institutions, and was its chairman from 1902 to 1911, performing in that capacity a great and harassing, though invisible and unappreciated, service to his fellow-citizens.

Dr. Putnam was among the earliest supporters of Dr. James R. Chadwick in founding the Boston Medical Library, of which he was an original member in 1875, an incorporator in

1877, and which he served upon important committees until his death. He helped to organize and carry on the Directory of Nurses. He was active in the campaign against tuberculosis and a director of the Mental Hygiene Association. He was one of the first to take up broad social questions from the legislative end, was the first experienced charity worker to enlist in the Massachusetts Civic League, and helped secure the establishment of the State Board of Insanity, the taking over of the Boston Insane Hospital by the state, medical inspection in the public schools of Massachusetts, playgrounds, better probation service, the juvenile court, better laws dealing with tramps, with drunkards, and many others.

In short, Dr. Putnam was for a generation the backbone of social work in Boston. We have all looked to him to do the hard things—to take up the new line at which the timid balked and which the unimaginative could not see, sustaining the old from which the glamor had worn off, stiffening up the weak places, making the hard decisions. He was here, as in all things, a man to accept responsibility, take the burden on himself, and carry it,—a patient and successful physician to the community as well as to the child.

Dr. Putnam's most distinctive characteristic was the power of enlistment. In each of the many services he undertook it seemed to those he served and to his fellow workers as if that must be the only thing he had to do. There are in every enterprise the helpful men, the wise, the brilliant men, the steady workers. And then there are the essential men, those without whom the thing will not be done. In an extraordinary number of instances Dr. Putnam was among these last. Whatever happened, however badly things might go, whoever else became lukewarm or discouraged, his associates knew that he, at least, would see the thing through, that he had enlisted for the war, intended doing as much, be it more or less, as might be necessary. The time at his disposal seemed always to be infinite, and he had no observable bias as to hours. There is no evidence, known at least outside his immediate family, that he ever ate or slept, and three in the morning was apparently the same to him as three in the afternoon.

Dr. Putnam was a remarkably resourceful man and would reconstruct his patients' world, physically as well as morally, by his calm assumption that anything needed could be done, and in hundreds of cases by doing the most impossible parts himself. Slower minds thought him slow at laying the first brick, whereas he had completed the whole structure in imagination, and was hesitating what kind of chimney-pot to use.

Dr. Putnam had a fairy godmother quality, as many of us know. I remember on my first visit to his much-loved shanty in the Adirondacks I came to believe that if, when walking up a mountain, you happened to want anything, from a piece of maple sugar to a volume of Shakespeare or a box of paints, you had only to look under the nearest stump and you would find that Dr. Putnam had anticipated exactly that need at that particular spot.

To many of those who saw him, Dr. Putnam's impersonation of the policeman at the Charity Workers' ball a year or two ago (I personally took him for a real cop), and of the very "disturbed" patient who brought down the house upon the same occasion, was a revelation of an unsuspected quality. His sense of humor, indeed, lived always just beneath the surface. I once saw him "cure" a small child's hands by putting on them a couple of envelopes as mittens.

And the best was the power behind it all in the great kind heart, that would see and know only the best, and, with a quality like the sun, could see only light wherever it was turned.

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## MEMORIAL.

### DR. CHARLES PICKERING PUTNAM.

THE committee on library and finance of the Boston Medical Library, at its regular meeting on Monday, April 27, desires in behalf of the Library to place on record an expression of its profound sense of the great loss the Library has sustained through the death of Dr. Charles Pickering Putnam, which took place after a brief illness on Wednesday, April 22.

Dr. Putnam was one of the five surviving charter members of the Library, and the only one who had served it continuously from the time of its incorporation in 1877. He was a member of the executive committee and of the committee on library and finance from the beginning of the Library. In 1879 a committee was appointed to provide for the registration of nurses at the Library. Dr. Putnam was one of the two constituting this committee and continued this service, latterly alone, with rare persistency and self sacrifice up to the present time. He had served on other committees at one period and another, and at the time of his death was the second member of the library committee, of which the librarian is the chairman. He was not only a member of committees but, notwithstanding his various occupations, was diligent in attendance and in the discharge of duties.

Dr. Putnam's service to the Medical Library from the point of view of continuity and devotion is peculiarly comparable with his service to the Associated Charities of Boston, which be helped to establish in 1879, to incorporate in 1881, of which he was vice-president from 1881 to 1907, and president from 1907 to the present.

Dr. Putnam's highly useful and unselfish activities were extended in many directions, in

all of which they were much appreciated and will be greatly missed.

*Resolved,* That this memorial expressing our sense of loss at the death of our colleague be spread upon the records of the Library and that copies be sent by the secretary to the family of Dr. Putnam and to the BOSTON MEDICAL AND SURGICAL JOURNAL.

## Miscellany.

### AMERICAN SOCIETY FOR CONTROL OF CANCER.

A PUBLIC meeting was held in St. Louis on Friday evening of last week, May 1, by the American Society for the Control of Cancer in conjunction with the St. Louis Medical Society.

"The general subject of the evening was 'The Prevention and Control of Cancer.' Hon. Charles Nagel, formerly Secretary of Commerce presided and his introductory remarks dealt with the importance of educating the public in regard to this disease. The first address was given by Frederick L. Hoffman, LL.D., statistician of the Prudential Insurance Company of America, whose subject was 'The Menace of Cancer.' He was followed by Dr. William F. Rodman of Philadelphia who discussed the prevention of cancer by the correction or removal of irritated parts, the control of cancer by early recognition and treatment, and the value of radium as compared with surgery.

"Dr. Leo Loeb, vice-president of the International Association for Cancer Research, explained the importance of cancer investigation and research, and Curtis E. Lakeman, executive secretary of the American Society for the Control of Cancer, described the purpose and plans of this national organization and the educational methods employed."

Similar educational meetings have already been held in New York, Chicago, Pittsburgh, and Portland, Me., and others are to be arranged for in Boston and New Orleans.

"The Cancer Society has recently made special efforts to enlist the coöperation of nurses and nurses' organizations in its work. It is believed that the instruction of nurses as to the essential facts in regard to cancer, particularly in women, will be of special value in leading to a more general dissemination of information in regard to the symptoms, diagnosis, treatment and prevention of this disease, and the great importance of early recognition and operation. A circular letter was sent to all nurses' training schools, clubs and settlements in New York City, asking that lectures to nurses on this subject be arranged. Favorable responses were received and recently the first of a series of meetings and lectures for nurses was held at the Henry Street Settlement, of which Miss Lillian D. Wald is head worker. About eighty nurses of the settlement staff were present. Another meeting will be held in May for the benefit of the several hundred visiting nurses of the New York City Department of Health.

"These facts have been submitted by the Cancer Society to the three national nursing organizations now meeting in joint convention at St. Louis, namely, The American Nurses' Association, The National League of Nursing Education, and the National Organization for Public Health Nursing, and the official coöperation of the nursing profession throughout the country is hoped for."

### TRANSFER OF SURGEON-GENERAL'S LIBRARY.

AT a stated meeting of the committee on library and finance of the Boston Medical Library, held April 27, 1914, said committee having under its by-laws entire charge of the finances and of the management of the Library, it was,

*Resolved,* That the Boston Medical Library, a duly incorporated institution of Massachusetts, having a membership of 700 physicians in Greater Boston, funds amounting to over $500,000, and a library of 80,000 volumes and 56,000 pamphlets, having learned of the proposed amendment to the Army Appropriation bill that passed the Senate March 28, 1914, providing for the transfer of the library of the surgeon-general's office to and to become a part of the Library of Congress, wishes hereby to express its opposition to this amendment because the library of the surgeon-general's office comprising the largest collection of medical and surgical books in existence is, with its index catalogue, an inexhaustible mine of scientific information which through the liberal policy observed in the past, has been at the service of the entire medical profession of the United States. Merging the library with the Library of Congress could not fail to destroy its identity and to injure its usefulness to the medical profession of the country. The Boston Medical Library has in the past had frequent recourse to the national library to provide its research scholars with books not in our collection, and has looked to it as the repository from which comes all that is best in medical literature. Therefore, the Boston Medical Library is unalterably opposed to the proposed transfer, and hopes that the amendment will not become law.

The Appropriation bill is now in the hands of the conference committee of the Senate and House, and may appear in the House for action at any time.

It was therefore voted that copies of this resolution be sent to the following: Hon. Henry Cabot Lodge, Hon. John W. Weeks, Hon. Andrew J. Peters, Herbert Putnam, librarian of congress; Surgeon-General, U. S. A.; Dr. Fielding H. Garrison, assistant librarian; Hon. James Hay, chairman committee on military affairs, House of Representatives.

A letter received since the above was printed, from Hon. James Hay, chairman committee on military affairs, says that the Senate amendment to the Army Appropriation bill providing for the removal of the Surgeon-General's Library to the Library of Congress was defeated. This news is confirmed in a letter from Senator John W. Weeks, dated April 30, whereas Senator Lodge wrote April 29 that he had taken up the matter with the committee in charge, but without result. Therefore it would seem that the library's protest arrived in Washington at an opportune time.

## ILLINOIS STATE CIVIL SERVICE COMMISSION.

### NOTICE OF EXAMINATION.

Applications must be on file in Springfield before 5 p. m., May 13, 1914.

Examinations will be held Saturday, May 23, 1914, at each one of the State Charitable Institutions where applicants appear, for the following positions:

GRADUATE NURSE.—Class B, Grade I. Open to men and women between ages of 21 and 45 years. Salary $40 to $55 per month with full maintenance. In this grade are all positions in hospitals for the insane, the duties of which involve the care of patients under the supervision of the Chief Nurse and the medical staff, together with the direction of Attendants when necessary; requiring education equivalent to graduation from a nurses' training school in an Illinois State Hospital for the Insane. Scope and weights: training and experience, 3; technical knowledge of nursing, 7.

MALE SUPERVISING NURSE.—Class B, Grade II. (*Promotional only.*) Open to employes who have served six months in Class B, Grade I, prior to examination, are on leave of absence, or are eligible for reinstatement. Salary $50 to $70 per month with full maintenance. The duties, under the supervision of the Chief Nurse and medical staff, involve the general overseeing of the Nurse and Attendant force, caring for the patients in a portion of an institution; requiring at least six months' experience as a Graduate Nurse and some administrative ability. Scope and weights: special subject, including questions on administrative duties and practical nursing, 8; seniority, ½; efficiency, 1½.

Requests for information and application blanks should be addressed to W. R. Robinson, Chief Examiner, State Civil Service Commission, Springfield, Illinois.

## NOTICES.

### CONFERENCE ON THE STUDY OF EXCEPTIONAL CHILDREN IN OUR PUBLIC SCHOOLS.

Friday, May 1, 3 p. m., Assembly room (third floor), Psychopathic Hospital. "Methods of Studying the Exceptional Child," Dr. Yerkes and Dr. Puffer.

Friday, May 8, 3 p. m., Assembly room (third floor), Psychopathic Hospital. "A Study of Typical Cases," Dr. Puffer, Miss Hardwick, and Mr. Bridges.

### BOSTON MEDICAL LIBRARY.

At the meeting of the Committee on Library and Finance of the Boston Medical Library April 27, the Directory for Nurses was placed in charge of the House Committee of the Library, the late Dr. C. P. Putnam having been a single sub-committee having the care of the directory.

Dr. Edward C. Streeter was appointed a member of the Committee on Library and Finance to fill the vacancy caused by the death of Dr. Putnam, and was assigned to the sub-committee on the Library.

## SOCIETY NOTICES.

THE AMERICAN GYNECOLOGICAL SOCIETY.—The thirty-ninth annual meeting of the American Gynecological Society will be held in Boston Tuesday, Wednesday and Thursday, May 19, 20, 21, 1914. The scientific sessions of Tuesday and Thursday will be held at the Boston Medical Library and of Wednesday at the Country Club, Brookline. The headquarters of the Society will be at the Harvard Club, Boston.

THE NORFOLK DISTRICT MEDICAL SOCIETY.—The sixty-fourth annual meeting will be held at the New American House, Hanover Street, Boston, on Tuesday, May 12, 1914. The business meeting will be at 5.30 p. m. and dinner will be served at 6.30. Tables seating eight will be used and members may arrange parties. Dinner tickets may be obtained from the secretary for $1.00 each. All members are urgently requested to pay their annual assessment of $5.00 at this meeting or forward it to the treasurer instead of making payments at The Massachusetts Medical Society meeting in June.

The Board of Censors will meet for the examination of candidates on Thursday, May 14, at 2 p. m., at Roxbury Masonic Temple, 171 Warren Street, Roxbury.

BRADFORD KENT, M.D., *Secretary.*

## RESIGNATION.

Dr. Frederic M. Briggs has tendered his resignation as Professor of Surgery and Secretary of the Faculties of Tufts College Medical and Dental Schools, to take effect September 1, 1914.

## RECENT DEATHS.

DR. HIRAM LUCE CHASE, who died on April 24 in Cambridge, Mass., was born at Boston in 1825. He received the degree of M.D. from the Harvard Medical School in 1846, and ever since that time had practised his profession in Cambridge. He was a member of the American Institute of Homeopathy and of the Massachusetts Homeopathic Medical Society. He is survived by one son, also a physician.

DR. WILLIAM J. O'REILLY, who died on April 24 in Roslindale, Mass., was born at Charlestown, Mass., in 1859. He studied medicine in New York and received the degree of M.D. in 1883 from Bellevue Hospital Medical School. He practised his profession for several years at Waltham, Mass., and then removed to Roslindale. He was a former member of The Massachusetts Medical Society.

DR. O. O. ROBERTS, who died on April 26, in Northampton, Mass., was born at Lyndon, Vt., in 1829. He received the degree of M.D. in 1853 from the Hahnemann College, Philadelphia. He settled at Northampton in 1857, and was the first president of the Western Massachusetts Homeopathic Medical Society.

DR. CHARLES EDWIN SANFORD, who died on April 26 at Bridgeport, Conn., was born in 1830. He received the degree of M.D. in 1853 from the Yale Medical School, and settled at Bridgeport in 1859.

DR. HARRY ATHERTON SMITH, who died on April 27, at West Roxbury, Mass., was born in Auburn, Me., on June 23, 1866. He graduated in 1886 from Colby College, and in 1890 received from the Bowdoin Medical School the degree of M.D. After serving as house physician at the Maine General Hospital, Portland, he practised his profession at Livermore, Me., for eight years, until he removed to West Roxbury in 1899. He was a former Fellow of The Massachusetts Medical Society.